

CHAPTER 6

SURVIVAL VESTS

Section 6-1. SV-2B Survival Vest

6-1. GENERAL.

6-2. The SV-2B Survival Vest provides maximum useful storage for survival equipment, consistent with minimum bulk and weight. See figures 6-1, 6-2, and 6-3. In addition, the survival vest provides for integration of a life preserver and the chest-mounted oxygen regulator. It does not interfere with use of either the regular or integrated-type parachute harness.

6-3. CONFIGURATION.

6-4. The SV-2B Survival Vest MIL-V-81523 (NIIN 00-139-6174) is constructed basically of nylon cloth. An adjustable harness, leg straps, and an entrance slide fastener provide a means of fitting and securing the vest to the aircrewmember. Elastic straps at the rear allow greater comfort and mobility for the wearer. Pockets are provided for stowage of survival items. See figure 6-4. When required, the chest-mounted oxygen regulator is located inside a pocket secured to the vest by means of hook and pile tape (except for S-3 and AV-8 series aircraft).

6-5. For S-3 and AV-8 series aircraft, the oxygen regulator is mounted on a mounting bracket attached to the vest IAW ACC-308 (for S-3 series aircraft) or ACC-375 (for AV-8 series aircraft). See figures 6-2 and 6-3.

6-6. SV-2B Survival Vests modified by ACC 522 to permit expansion of circumference of vest for wear over bulky clothing are reidentified as CMU-21/P22P-7(V) P/N 67A100H41-1.

6-7. SV-2B Survival Vests with side pockets with heavy medium slide fastener chains opening from rear are to be modified in accordance with ACC 599 Revision A to add an additional slide to each side pocket. Double slide configuration provides increased access to stowed survival items and improved safety. No change in nomenclature. Part number changes to 67A100D2-401 after ACC 599 Rev A.

6-8. SV-2B Survival Vests intended for use by USMC CH-46D/E, CH-53D/E, MH-53E, and UH-1N helicopter aircrews who are equipped with the A/P23P-14A(V) Respirator Assembly shall be modified when placed in service to accommodate the A/P22P-9A(V) Chemical, Biological, and Radiological (CBR) Protective Assembly in accordance with ACC 616. SV-2B Survival Vests intended for use by all other USN/USMC rotary wing aircrews who are equipped with the A/P22P-14(V)1 CBR Respirator Assembly shall be modified in accordance with ACC 616. Survival vests modified by this directive and redesignated CMU-23A/P become dual purpose vests. For routine missions where there is no potential of CBR exposure, the CMU-23A/P vest is configured like a normal SV-2B Survival Vest. With interchangeable pocket configuration, however, the CMU-23A/P vest can be quickly reconfigured for missions requiring CBR protection.

6-9. SV-2B Survival Vest, P/N 67AS100D2-51, used by aircrews of USN/USMC helicopter, E-2C, and C-2A aircraft shall be modified in accordance with ACC 638 to accommodate the SRU-40/P Helicopter Aircrew Breathing Device (HABD). After modification the part number of the modified SV-2B Survival Vest shall be 67AS100D2-601.

6-10. DRAWINGS INDEX. Table 6-1 indicates the drawing index and nomenclature for the SV-2B.

6-11. APPLICATION.

6-12. The SV-2B is designed for use by all aircrew members.

NOTE

ACC-522, 522 AM1 and 522 AM2 authorizes the installation of an extension panel into the SV-2B for aircrew members of P-3 all series and rotary wing aircraft to accommodate both bulky clothing and body armor. Once modified, the SV-2B is re-identified as the CMU-21/P22P-7(V) P/N 67A100H41-1 (See Section 6-2). See NAVAIR 13-1-6.7-1 for authorized aircraft and the authorized configuration of vest and body armor.

Table 6-1. SV-2B Drawings Index

Drawing Number	Description
67A100D2-1 (CAGE 30003)	Vest Assembly, Survival Equipment
67A100D3-1	. Pocket Assembly, Knife Sheath, Flare Gun, and Holster
67A100D4-1	. . Holster Assembly
67A100D5-1	. Pocket Assembly, Whistle, Mirror, SRU Kits, and Magazine Keeper
67A100D6-1	. Pocket Assembly, Marker Light, SRU Kits, and Magazine Keeper
67A100D6-1	. Cover Assembly, Left Hand Vest Panel
67A100D6-2	. Cover Assembly, Right Hand Vest Panel
67A100D8-1	. Harness Assembly, Right Side
67A100D8-2	. Harness Assembly, Left Side
67A100D9-1	. Securing Belt Assembly
67A100D10-1	. Pocket Assembly, Radio, Hook Blade Knife, and Ammunition Keeper

Table 6-1. SV-2B Drawings Index (Cont)

Drawing Number	Description
67A100C12-1	. Securing Strap Assembly, Oxygen Hose
67A100C13-1	. Keeper Assembly, Ammunition

6-13. FITTING.

6-14. The basic SV-2B is designed to fit chest sizes from 40 to 48 inches. By changing the elastic straps at the rear, the vest may be adapted to a wider size range. To fit an SV-2B, proceed as follows:

1. The aircrewmember should don all normal flight gear, including PCU-Series torso harness (if used).

NOTE

Accomplish adjustments in both standing and sitting positions.

2. Don an SV-2B. Pass leg straps through crotch and attach at snaphooks. Adjust leg straps and shoulder straps so that they are snug and vest bottom is just above hips.

NOTE

On some aircrewmembers, it may be necessary to lengthen or shorten elastic straps towards either top or bottom. A properly fitted SV-2B should conform to the torso without gaps, yet not restrict breathing or movement.

3. Examine SV-2B for proper fit. If too loose, elastic straps must be shortened. If too tight, straps must be lengthened. To adjust length of straps, proceed as follows:

a. Cut 1 1/2-inch wide cotton elastic webbing (NIIN 00-262-1655) to desired length for new straps.

b. Remove installed straps, using care not to damage vest cloth. If straps are to be removed completely, proceed to step d.



Figure 6-1. SV-2B Survival Vest

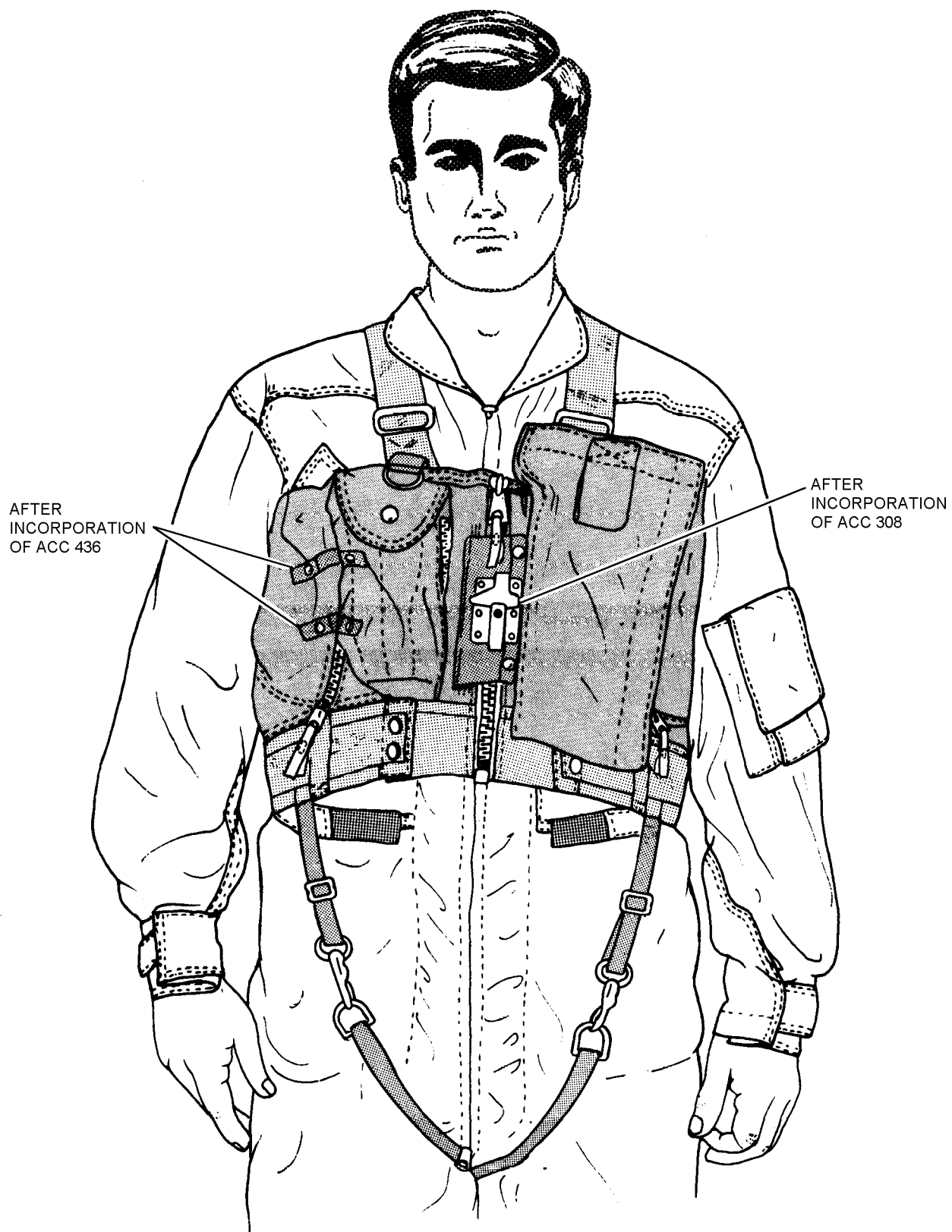


Figure 6-2. SV-2B Survival Vest (S-3 Series Use Only)

6-2

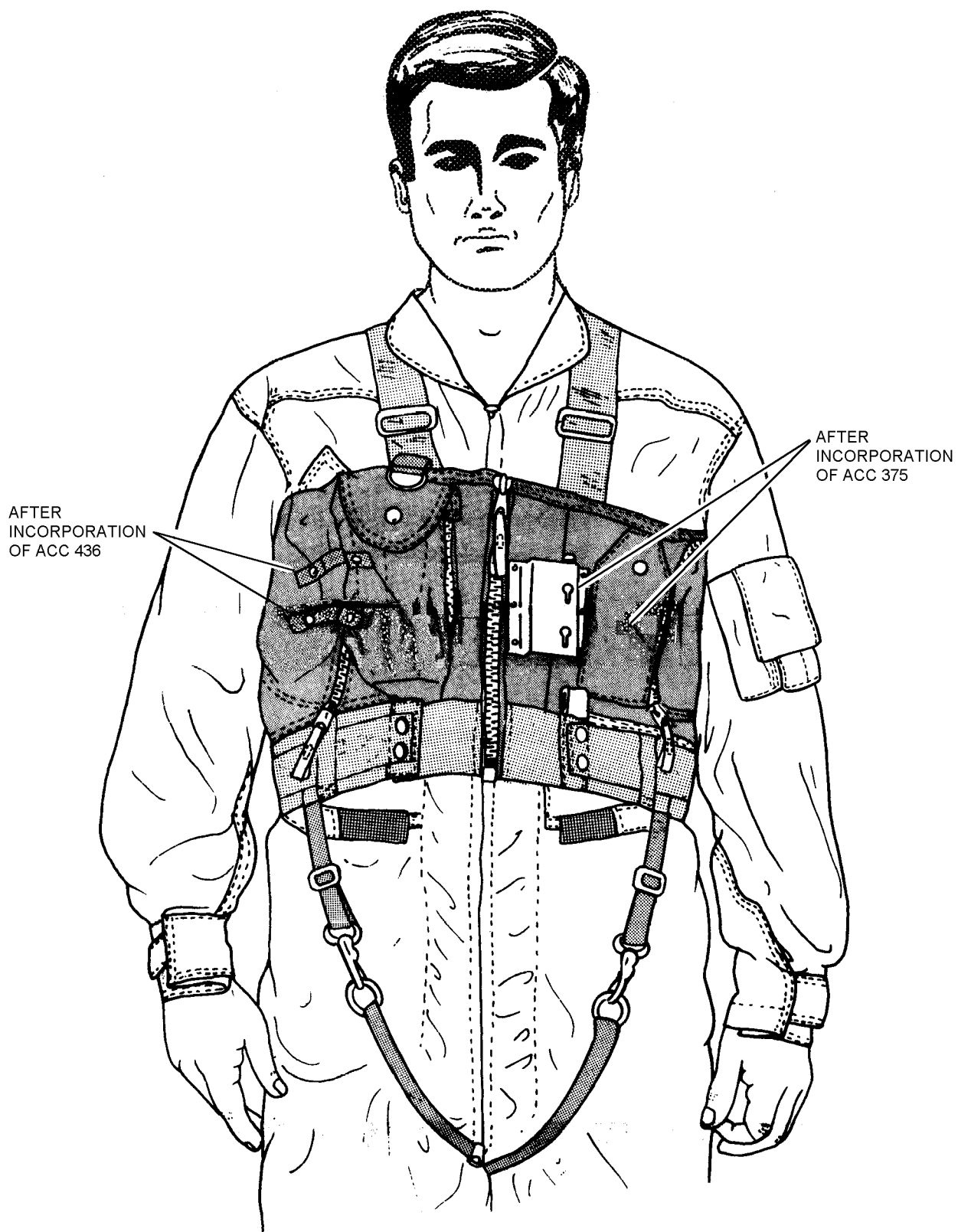


Figure 6-3. SV-2B Survival Vest (AV-8 Series Use Only)

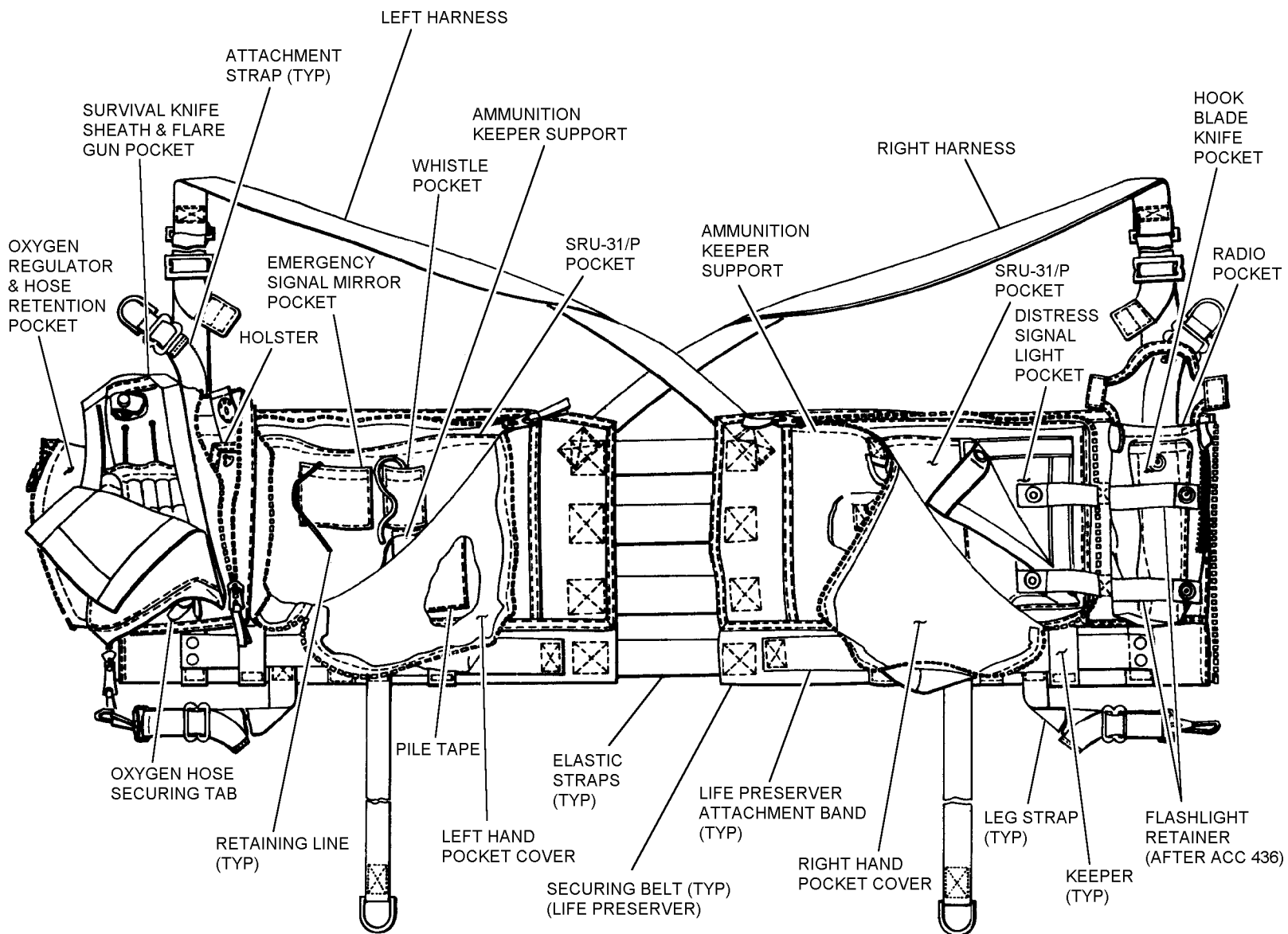


Figure 6-4. SV-2B Parts Nomenclature

Figures 6-5 and 6-6. Deleted

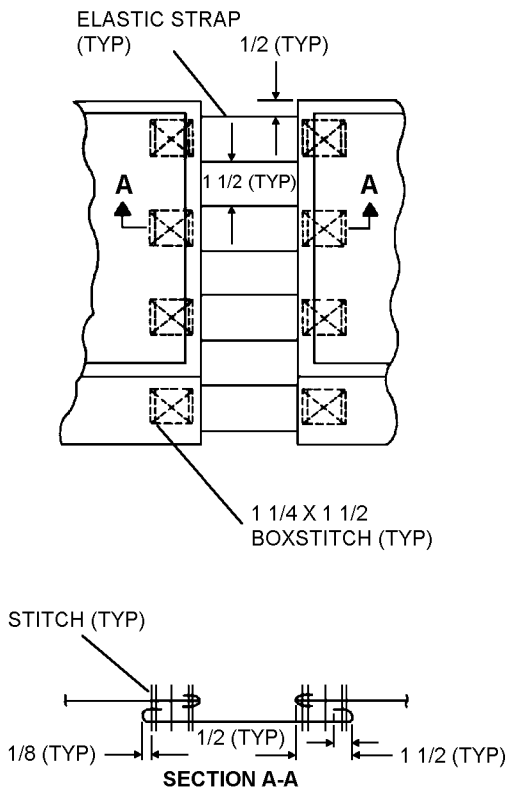


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NOTE

All stitching is to be performed with a ASTM-D-6193, Type 301 lockstitch, 8 to 10 stitches per inch. Backstitch 1/2-inch at ends of all stitching.

c. Stitch new straps cut in step a to vest. Use size E nylon thread (V-T-295). Proceed to step g.



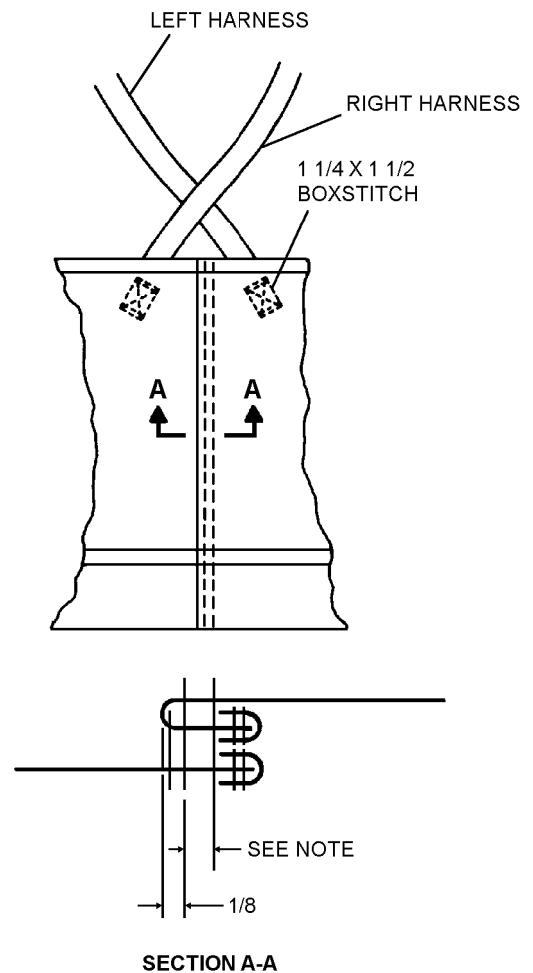
Step 3c - Para 6-14

6p14s3c

d. If eliminating straps completely, have aircrewmember don the vest over winter flight gear to ensure fit when worn over layers of clothing. Determine amount of excess width at center back that must be removed.

e. Taking an equal amount from each side, mark location for new seamline. Remove back harness straps using care not to damage vest cloth.

f. Stitch new center back seam at markings with seam type LSq-3. Reposition harness straps and stitch to vest with 1 1/4 X 1 1/2-inch crossbox stitch. Use size E nylon thread (V-T-295).



SECTION A-A

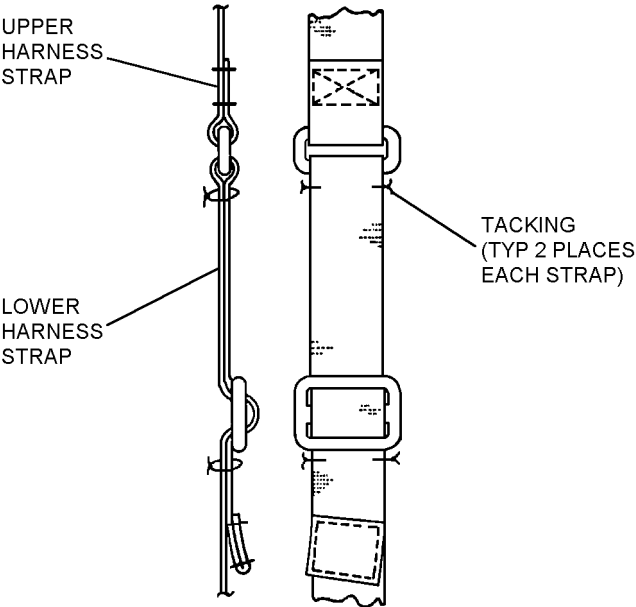
NOTE: THIS DISTANCE WILL VARY ACCORDING TO THE AMOUNT REMOVED ALONG THE CENTER BACK.

Step 3f - Para 6-14

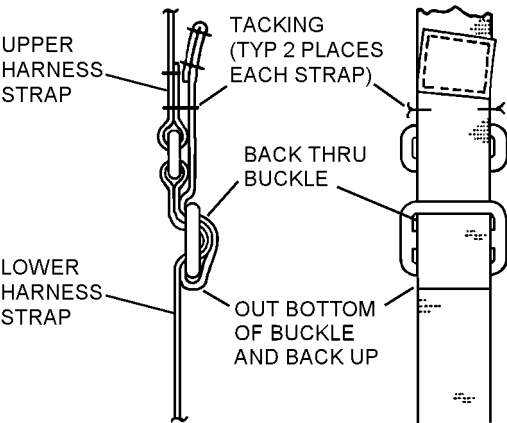
6p14s3f

g. Repeat step 2.

4. If desired, shoulder straps may be tacked in place close to the buckle using two turns of size E nylon thread doubled. Tie with a surgeons knot and secure with a square knot 1/4 inch from the edge of the strap.



OR



Step 4 - Para 6-14

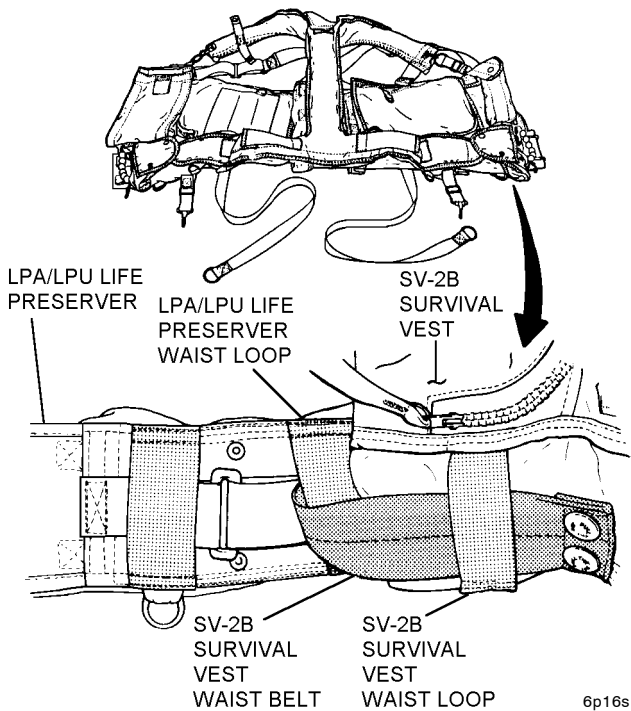
6-15. DONNING.

6-16. INSTALLING THE LPA/LPU LIFE PRESERVER TO THE SV-2B AND CMU-21 SURVIVAL VEST.

Materials Required

Quantity	Description	Reference Number
As Required	Insulation Sleeving, Electrical	MIL-I-23053/5 NIIN 00-815-1300

1. Reeve waist belt of SV-2B through waist loops of LPA/LPU life preserver and waist loops of SV-2B.



Step 1 - Para 6-16

2. Snap the survival vest waist belt snap fasteners to secure the life preserver to the survival vest.

3. Cut two pieces of the electrical insulation sleeving, (heat shrink) Part No. MIL-I-23053/5, 2.75 inches in length.

4. Slide one piece of the heat shrink cut in step 3 over one of the D-rings of the survival vest attachment strap and connect the life preserver snap hook to the D-ring.

5. Slide the heat shrink up and over the life preserver snap hook, ensure the heat shrink butts against the shank (base) of the snap hook.

CAUTION

Ensure heat from the heat gun is not directed to the bladder of the life preserver. Testing has indicated direct heat from the heat gun will not harm the bladder, but it shall be avoided.

6. Apply heat from the heat gun until the heat shrink is snug around the snap hook. The heat shrink should cover the spring clip opening of the snap hook completely.

7. Repeat steps 4 through 6 for the snap hook on the opposite side.

8. Inspect both snap hooks modified in steps 4 through 7 to ensure the heat shrink is snug around the snap hooks and covers the snap hook spring clip opening completely.

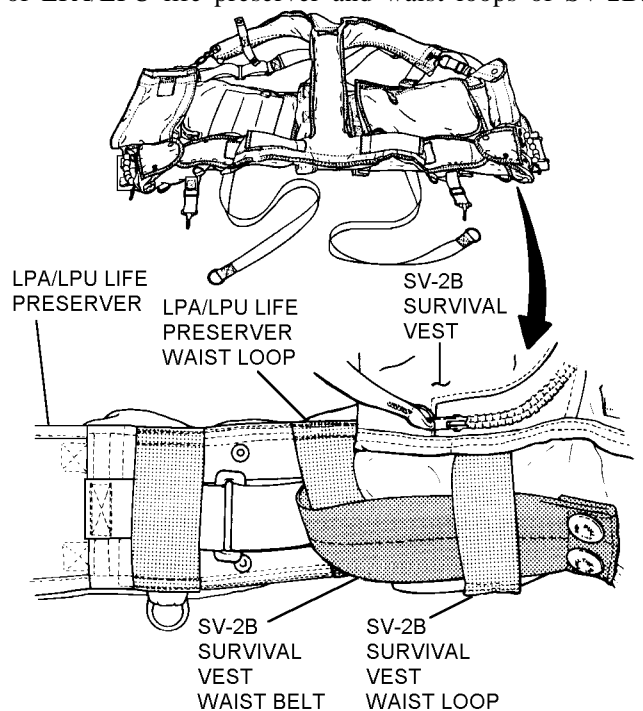
9. Snap retaining straps of life preserver collar lobes around SV-2B shoulder straps.

10. Don survival vest and life preserver as one assembly.

6-17. DONNING THE SV-2B, LPA/LPU LIFE PRESERVER AND PCU-SERIES TORSO HARNESS. To don the SV-2B, LPA/LPU life preserver and PCU-Series torso harness, proceed as follows:

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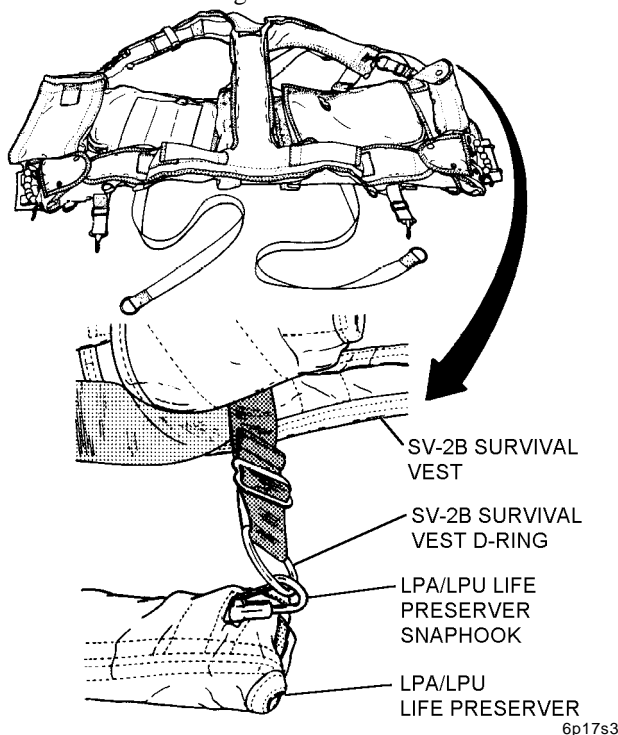
1. Reeve waist belt of SV-2B through waist loops of LPA/LPU life preserver and waist loops of SV-2B.



Step 1 - Para 6-17

6p17s1

2. Snap fasteners of waist belt onto SV-2B.
3. Attach snaphooks on LPA/LPU life preserver collar lobes to D-rings on SV-2B.



Step 3 - Para 6-17

6p17s3

4. Don PCU-Series torso harness.
5. Secure torso harness with slide fastener.
6. Reeve and tighten chest strap.
7. Don SV-2B and LPA/LPU life preserver as one assembly over torso harness.
8. Secure SV-2B/LPA/LPU assembly with slide fastener.

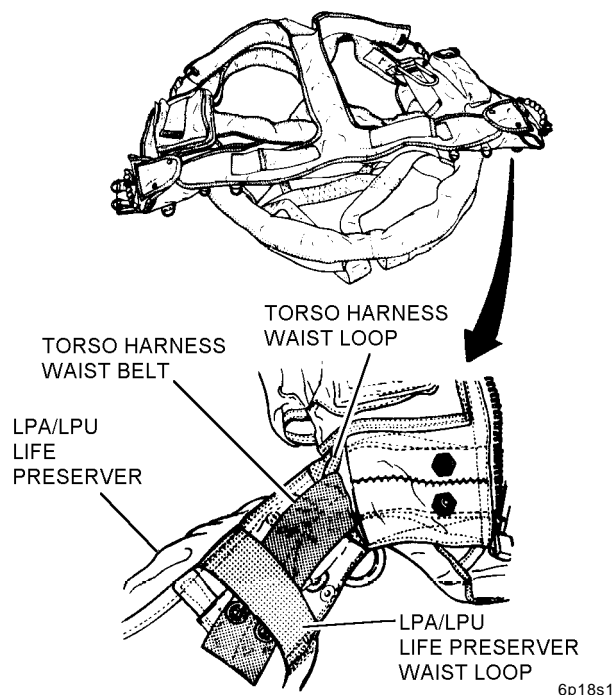
NOTE

The SV-2B leg strap portions with D-ring may be removed for individuals who are always configured with a torso harness.

9. Attach snaphook of leg strap on SV-2B to D-ring on groin strap of torso harness.
10. Check adjustment on all straps. See [figure 6-8](#).

6-18. DONNING THE PCU-SERIES TORSO HARNESS (MODIFIED IAW ACC 380) AND LPA/LPU LIFE PRESERVER. To don the modified torso harness and LPA/LPU life preserver, proceed as follows:

1. Reeve waist belt on torso harness through waist loops of LPA/LPU life preserver and waist loops of torso harness.



Step 1 - Para 6-18

6p18s1

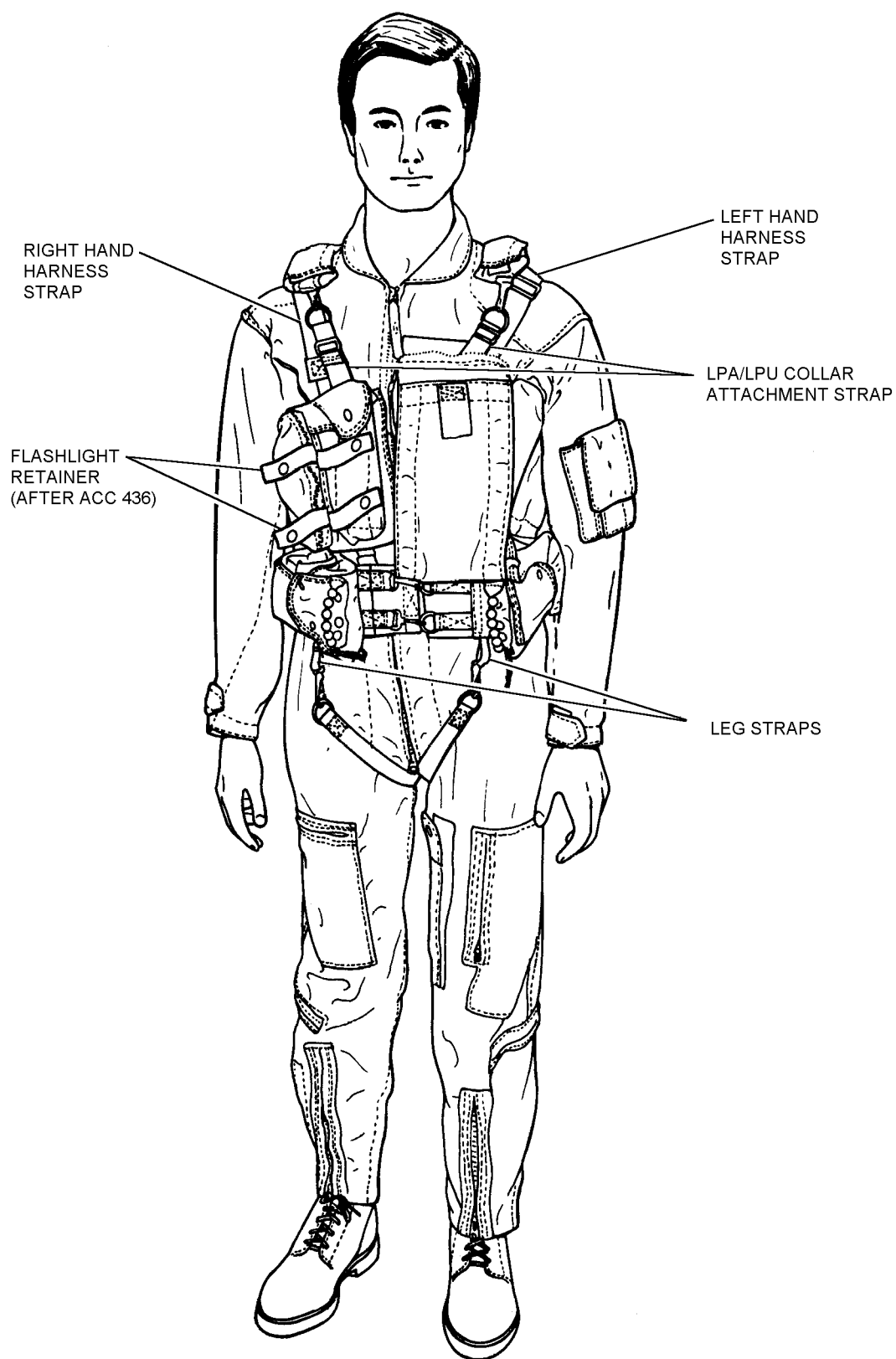


Figure 6-7. Donned SV-2B and LPA/LPU Life Preserver

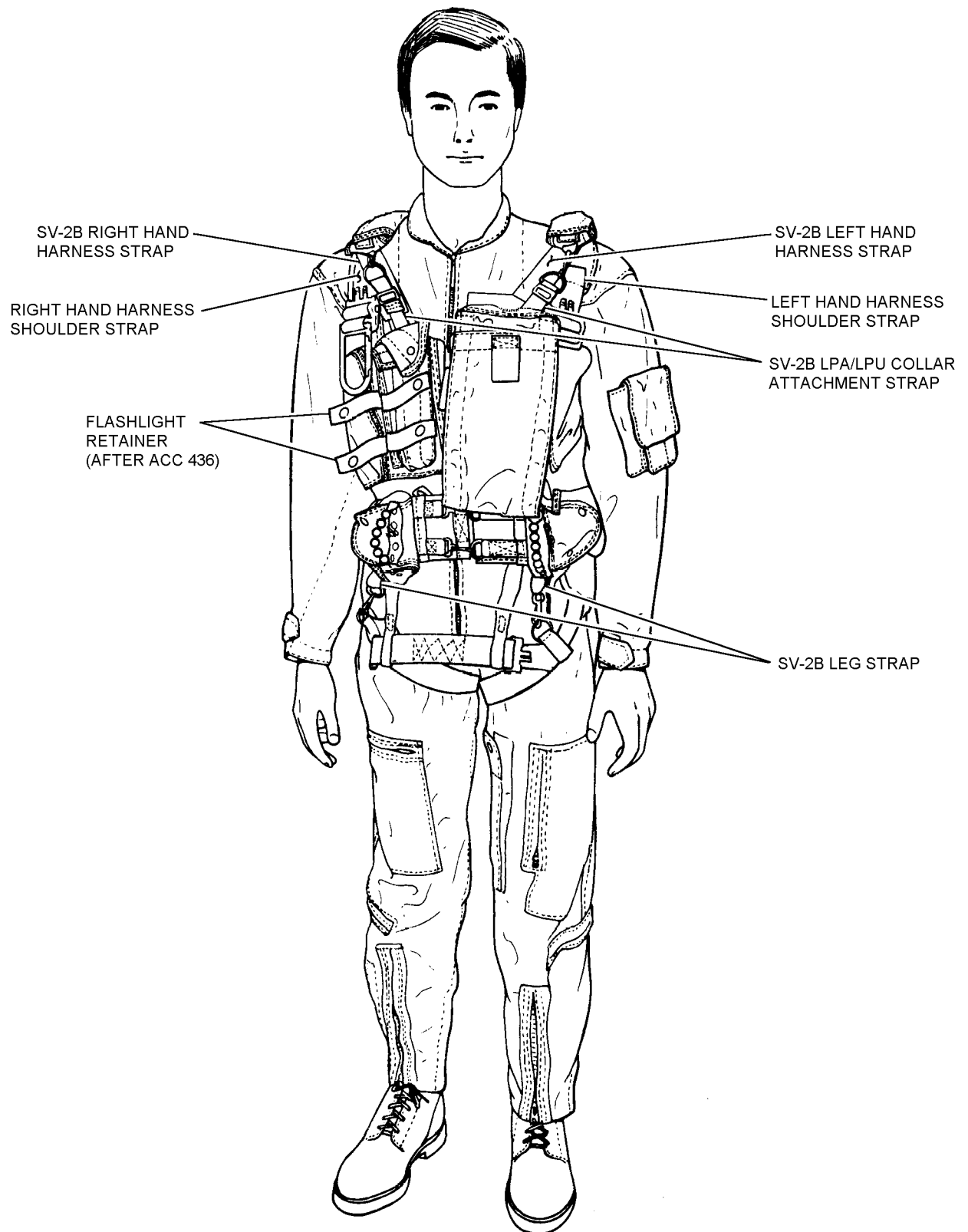
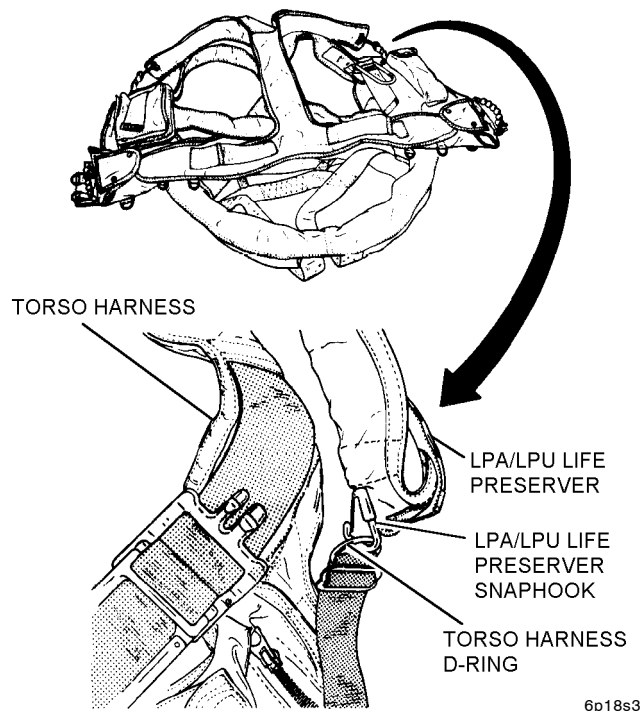


Figure 6-8. Donned SV-2B, LPA/LPU Life Preserver, and PCU-Series Torso Harness

6-8

2. Snap fasteners of waist belt to torso harness.
3. Attach snaphooks on LPA/LPU life preserver collar lobes to D-rings on torso harness.



Step 3 - Para 6-18

6p18s3

4. Don torso harness and LPA/LPU life preserver as one assembly.
5. Reeve and tighten chest strap.
6. Secure torso harness/LPA/LPU assembly with slide fastener.
7. Check adjustment on all straps. See [figure 6-9](#).

6-18A. DONNING THE PCU-SERIES TORSO HARNESS WITH ATTACHED LPFC FLOTATION COLLAR.

CAUTION

While wearing the Low Profile Flotation Collar, ensure SV-2B shoulder straps are routed beneath flotation bladders.

6-19. MODIFICATIONS.

6-20. The SV-2B survival vest shall be updated by comparing the configuration of the assembly with the

directives listed in [table 6-2](#). Repairs, fabrications, and installations to maintain serviceability are listed in [table 6-3](#).

6-21. MAINTENANCE.

6-22. Repairs or other maintenance actions required shall be performed by organizational level or above. All maintenance actions and inspections shall be recorded on the appropriate form in accordance with OPNAVINST 4790.2 Series.

6-23. SPECIAL INSPECTION. The Special Inspection shall be performed by organizational level or above upon issue prior to placing the SV-2B in service and every 90 days thereafter. To perform the Special Inspection proceed as follows:

NOTE

The Special Inspection interval for the SV-2B Survival Vest assigned to P-3 selected air reserve aircrewmembers has been extended to 180 days vice 90 days, providing survival vests are stowed under controlled conditions.

1. Visually inspect survival items in accordance with the applicable chapter of NAVAIR 13-1-6.5.

2. Verify condition of vest by performing the following tasks:

- a. Inspect cloth and webbing for cuts, tears, fraying, and contamination.
- b. Inspect stitching for security.
- c. Inspect hook and pile tape for damage and security.
- d. Inspect slide fasteners for damage, security, and ease of operation. Inspect thong pull tabs for presence and security of attachment.
- e. Inspect hardware for security, corrosion, dents, burrs, distortion, sharp edges, and, if applicable, ease of operation.
- f. Ensure that snaphooks on leg straps are P/N MS51828-3B, 1-inch, black, brass snaphooks. Replace any other snaphook with this hook.

g. Inspect configuration for incorporation of all SV-2B features.

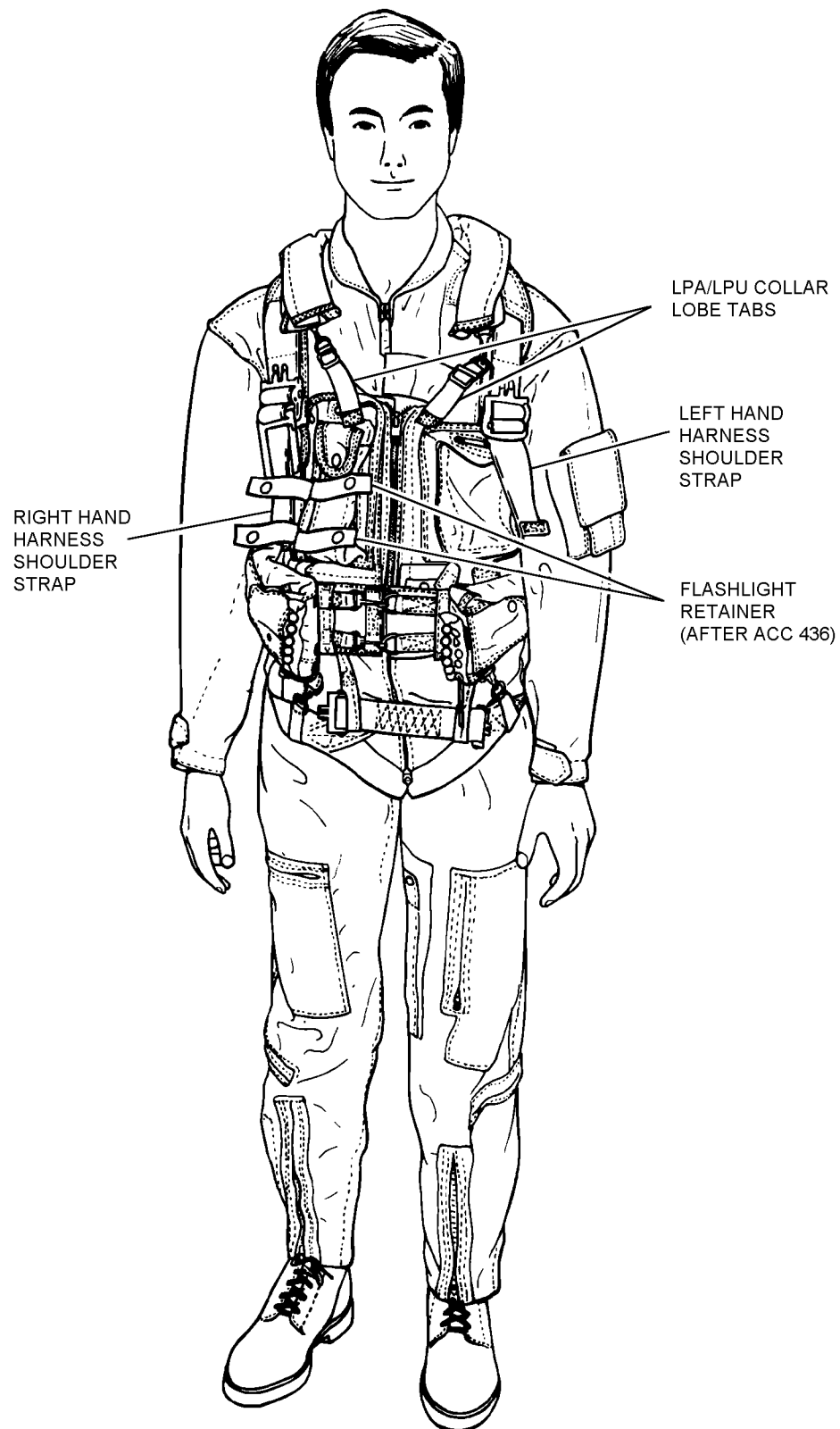


Figure 6-9. Donned PCU-Series Torso Harness Modified IAW ACC 380 and LPA/LPU Life Preserver

6-9

Table 6-2. SV-2B Directives

Description of Modification	Application	Modification Code
Fabrication of Flashlight Attachment Straps	All SV-2B Survival Vests	66-436
Installation of Extension Panel at Organizational Level	SV-2B Survival Vests used by patrol aircrews	66-522
Modification of Flare/Pistol Pocket to accommodate SRU-36/P HEED Device	SV-2B Survival Vests used by patrol aircrews	66-522 Amend 1
Modification of SV-2B Survival Vest to accommodate large frame pistol.	SV-2B Survival Vests used with all helos, E-2 and C-2 aircrews	66-493
Modification of SV-2B/CMU-23/P to accommodate USMC helicopter aircrew	SV-2B Survival Vests used by all USN/USMC rotary using, E-2 and C-2 aircrews	66-513
Modification of SV-2B Survival Vest to accommodate SRU-40/P Helicopter Aircrew Breathing Device (HABD)	A/P22P-9A(V) CBR Protective Assembly	66-616 Amend 1
Modification of Extension Panel addition of P-3 and Rotary Wing Aircrew Body Armor	SV-2B Survival Vests used by all USN/USMC helo, E-2C, and C-2A aircrews.	66-638
	All SV-2B (CMU-21/P22P-7(V)) Survival Vests worn by aircrewmembers of all P-3 series and Rotary Wing Aircraft.	66-522 Amend 2
Notes: 1. Deleted. 2. Upon incorporation of ACC 522 vest, as amended, is reidentified as a CMU-21/P22P-7(V) P/N 67A100H41-1. See Section 6-2. 3. Upon modification IAW ACC 616 reidentify as CMU-23A/P, P/N 1774AS300-1. 4. Upon modification in accordance with ACC-638 the part number for the SV-2B Survival Vest shall be 67AS100D2-601. 5. See NAVAIR 13-1-6.7-1 for aircraft applications and authorized configurations of the vest and body armor.		

h. Refill water bottles with clean water. Do not use soap to clean bottles.

NOTE

Water bottles should be refilled at least every 30 days between the calendar inspection by the aircrewmember.

i. Ensure completion of inspection: ensure that any discrepancies found were corrected.

3. If cleaning is necessary, follow steps listed in paragraph 6-24.

4. If cleaning is not necessary, repack vest in accordance with paragraph 6-25.

5. Document inspection in accordance with OP-NAVINST 4790.2 Series.

6-24. **CLEANING.** To clean an SV-2B, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Detergent, Laundry	Commercial
1. Mix a proper strength solution of detergent using detergent manufacturer's recommendation.		

Table 6-3. Repairs/Fabrications/Installations

Description of Repairs/Fabrications/Installations	Application	Paragraph
Attachment of heat shrink tubing to LPU-21 Life Preserver during SV-2B attachment.	All SV-2B Vests used in non-ejection seat equipped aircraft.	6-16
Fitting and Procurement of the Leather Shoulder Holster.	All SV-2B (CMU-21/P22P-7(V)) Survival Vests.	6-24B
Fabrication of Pocket Assy for SRU-40/P HABD.	All SV-2B used in helo, E-2C, and C-2A aircraft.	6-29
Fabrication and Installation of Helicopter Rescue Strap.	All SV-2B not worn with PCU series torso harness (Not).	6-37
Fabrication of Oxygen Hose Securing Tab Subassembly.	All SV-2B Survival Vests.	6-39
Removal of Knife Sheath, Flare Gun, and Holster Pocket Assembly.	All SV-2B Survival Vests used in AV-8 Series aircraft.	6-40
Fabrication of HEED tether.	All SV-2B Carrying HEED bottle.	6-41
Fabrication of Slide Fastener Thongs.	All SV-2B Survival Vests.	6-42
Modification of SV-2B vest in accordance with ACC 513.	All SV-2B Series Survival Vests.	6-44
Fabrication of the Hydration/Optional Equipment Pocket.	All SV-2B (CMU-21/P-22P-7(V)) Survival Vests.	6-57A
Modification of SV-2B IAW ACC 616.	All SV-2B vests used by USMC aircrews of CH-46D/E, CH-53D/E, MH-53E, and UH-1N helicopters who are equipped with A/P23P-14A(V) Respirator Assembly and all other USN/USMC rotary wing aircrew who are equipped with the A/P22P-14(V)1 Respirator Assembly.	6-69
Notes: 1. Those personnel who are dual-qualified in both ejection seat and non-ejection seat aircraft should have the rescue strap installed on their SV-2B vest.		

CAUTION

Ensure that all survival items are removed from vest.

2. Immerse SV-2B in solution and allow to soak for five minutes. Agitate gently for two minutes. Drain, do not wring.

3. Rinse vest in cool, fresh water until all traces of detergent are gone.

CAUTION

Do not use dryer; do not hang in direct sunlight.

4. Hang vest by shoulder harness straps in a dry, well-ventilated area until dry.

5. Repack vest in accordance with paragraph 6-25.

6-24A. PROCUREMENT AND FITTING OF PRU-60/P22P-15 OR PRU-60A/P22P-15 SOFT BODY ARMOR.

NOTE

The PRU-60/P22P-15 soft armor and side inserts must be ordered direct from Protective Materials Company, 14040 N.W. 58 Court, Miami Lakes, FL 33014. 305-820-4414.

Materials Required		
Quantity	Description	Reference Number
1	PRU-60/P22P-15 Body Armor, Soft, Small Arms Protective (S, M, LG, X-LG)	See Note 1
	-or-	
	PRU-60A/P22P-15 Body Armor, Soft	MIL-B-29605
1	Small Arms Protective (MED)	NIIN 01-441-2993
1	Small Arms Protective (LG)	NIIN 01-441-2996

NOTE

Fitting, maintenance and cleaning instructions for PRU-60/P22P-15 Soft Body Armor can be found in [Chapter 6](#) and for the PRU-60A/P22P-15 Soft Body Armor in NAVAIR 13-1-6.7-4.

- When donning the soft armor ensure that it is worn under the survival vest. The front panel is readily identified by the green pile fastener tape and the hard armor flap pocket. The flap pocket is for the hard armor insert only and is not to be used with the SV-2, CMU-21/P22P-7(V) application.
- Upon donning the soft armor, close the survival vest front entrance slide fastener over the soft armor. If the addition of the soft armor makes the SV-2B to tight to close, the hydration/optional equipment pocket may be used as an expander to the vest or

the vest may be reconfigured in accordance with [Section 6-2](#).

WARNING

Survival vests modified by ACC 522 shall not be used in aircraft equipped with ejection seats.

NOTE

If the CMU-21/P22P-7(V) or the hydration/optional equipment pocket is used to accommodate the addition of body armor, the LPU-27/P or LPU-35/P Life Preserver must be used in lieu of the LPU-21 Series Life Preserver.

6-24B. PROCUREMENT AND FITTING OF THE LEATHER SHOULDER HOLSTER WITH THE SV-2B, CMU-21/P22P-7(V) SERIES SURVIVAL VESTS.

Materials Required		
Quantity	Description	Reference Number
1	Holster, Leather Shoulder	7791527 NIIN 00-973-2353

NOTE

Refer to NAVAIR 13-1-6.5, for maintenance and repairs of the leather shoulder holster.

- The leather shoulder holster ([figure 6-9A](#)) is donned under the aircrewmember's left arm, allowing for a right handed release. The chest strap is run around the back and snapped around the chest to the D-ring sewn to the top edge of the holster.
- Adjustments are made around the left shoulder by tightening or loosening the straps and re-engaging the adjustment buckle hook prong. The circumference adjustment is made with the chest strap adjustment buckle in the same manner as the shoulder strap. The harness assembly should be made as snug as possible without causing discomfort for the aircrew member in both a standing and sitting position. Do not remove any extra harness strap after fitting aircrew.

3. Tie the two leather thongs so the knot is on the top of the strap to avoid creating hot spots for the aircrew member.

4. Upon completion of the fitting procedure, inspect entire harness and holster assembly to ensure all adjustments are properly tied off and secured. If additional holes are required to affect a proper fit, use a rotatable star punch or equivalent, ensuring the size of the holes cut do not exceed the size of the holes the manufacture initially made for the harness strap adjustment holes.

5. The leather shoulder holster must be worn over all flight clothing, soft armor and torso harnesses but under the survival vest (figure 6-9B thru 6-9D).

6-25. RIGGING AND PACKING. To rig and pack an SV-2B, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Cord, Nylon, Type I (with Core Strands Removed)	MIL-C-5040 NIIN 00-240-2154
	-or- Type IA (Coreless)	NIIN 00-292-9920



Figure 6-9A. Leather Shoulder Holster

6-9a



Figure 6-9B. Soft Armor With Leather Shoulder Holster

6-9b



Figure 6-9C. Torso Harness With Leather Shoulder Holster

6-9c



**Figure 6-9D. Hydration/Optional Equipment Pocket
With Soft Body Armor and Leather Shoulder Holster**

6-9d

Materials Required (Cont)

Quantity	Description	Reference Number
21 Inches	Webbing, Textile, Nylon, Type II, 1-inch Wide	MIL-W-4088 NIIN 00-260-6910
21 Inches	Tape, Textile and Webbing, Reinforcing Nylon, Type IV, 1-inch Wide	MIL-T-5038 NIIN 00-261-8579

NOTE

Refer to NAVAIR 13-1-6.7-1, and carefully select the survival items to be stowed in the SV-2B.

- 1. Ensure that all survival equipment selected has been inspected in accordance with NAVAIR 13-1-6.5.
- 2. Lay out vest and survival items on a clean table.



Additional items may be added to the SV-2B, at discretion of aircrewmember. In no case shall additional items exceed 5 pounds total weight. Each additional item shall be secured to the SV-2B with a 48-inch length of nylon cord and items shall be stowed to maintain equal weight balance of the vest.

NOTE

Refer to glossary for directions for tying a bowline knot. The right angle flashlight, P/N MX-991/U, shall be attached to the survival vest using elastic straps and snaps sewn to the outside of the survival vest and will not be secured to the vest with a retaining line. All other items will be secured to the vest using a bowline knot and a 48-inch length of nylon cord. Sear the cut ends to eliminate cord fraying. Take the remaining line secured with a light-weight rubber band and stow in vest in accordance with figure 6-10.

- 3. Fill water bottles, if carried, with drinking water.

NOTE

Two tabs are provided for weapon security in pistol pocket behind sheath knife and flare kit. The short tab is used to secure the snubnose revolver and the long tab secures the standard .38 caliber revolver.

- 4. If weapon is carried, stow 9 rounds of ammunition in each ammunition keeper.
- 5. Tie a 48-inch length of nylon cord to the pocket grommet and retaining loop on SDU-5/E marker distress signal.

NOTE

If the SDU-39/N Distress Strobe Light is used, the nylon cord shall be passed through the hole below the ON/OFF switch of the SDU-39/N and through the loop formed by the folded end of the lanyard. Refer to paragraph 6-43 for fabrication and installation of the SDU-39/N lanyard.

- 6. (SDU-5/E only). Cut and sear 12-inch length of 1-inch webbing and place through retaining loop on distress signal light and draw ends even. Stitch a single row 1/8 inch from edge around all edges and as close as possible to loop. Double stitch across webbing next to loop. Cross boxstitch open end. See figure 6-11.

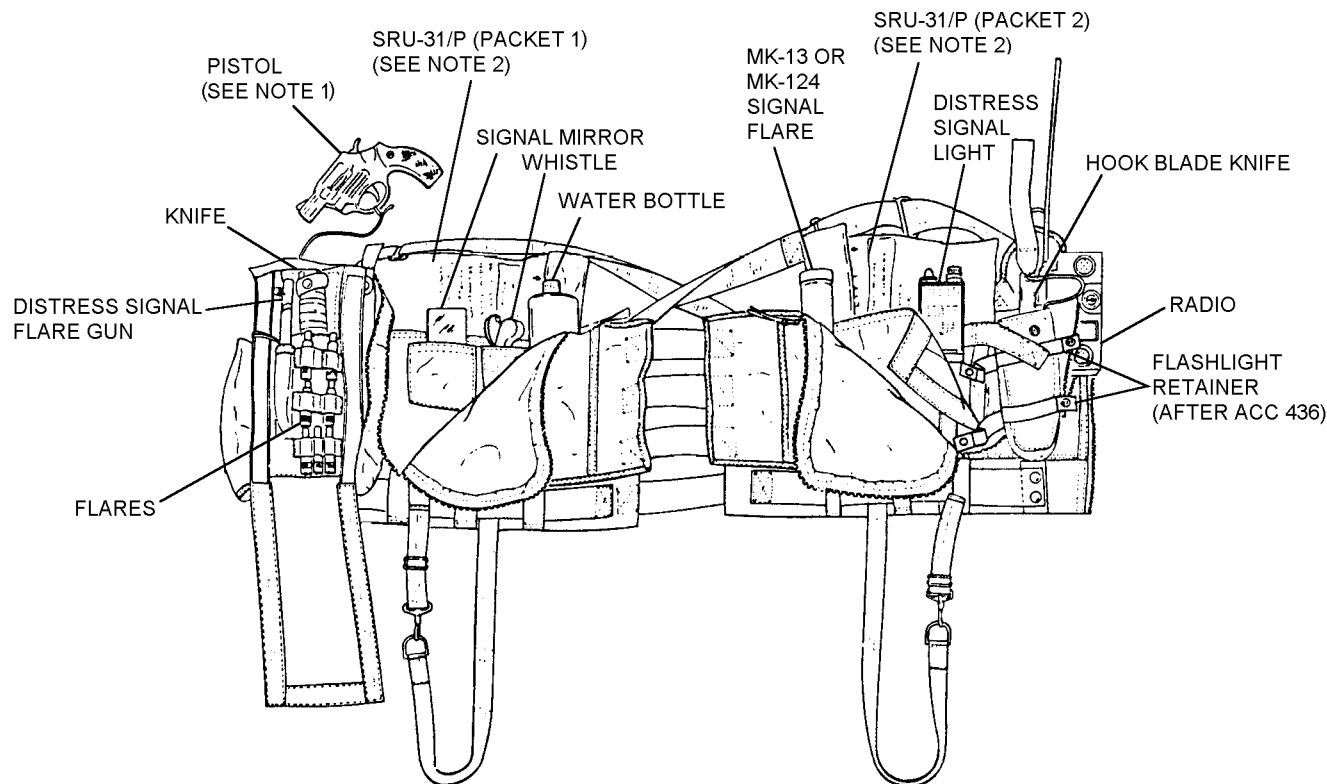
NOTE

Ensure plastic switch protective cap is removed from actuation switch on marker distress light (SDU-5/E).

- 7. Install light in right side of vest dome end down. Ensure that the tab is positioned toward the center slide fastener and is exposed from the strobe light compartment but not from the outer pocket cover slide fastener.
- 8. Remove the AN/PRC-90 Radio Set from the radio stowage pocket and remove nylon cord securing radio set to pocket.
- 9. Prior to installing AN/PRC-90-2 Radio Set, verify initial maintenance and verification requirements in accordance with NAVAIR 16-30PRC-90-2.

- 10. After successful completion of maintenance and verifications, ensure volume control knob is set in maximum output. Loop the radio antenna and secure it to radio with a rubber band. Install AN/PRC-90-2 Radio Set into radio storage pocket as follows.

- a. Using a 48-inch length of Type I nylon cord, secure one end to the radio set and the other to the radio pocket grommet, using bowline knots.



NOTES:

1. WITH NEW PRODUCTION CHANGE OF SV-2B (67A100D2-51), LARGER PISTOLS MAY BE CARRIED THAN THE SNUB-NOSE, 2-INCH BARREL, .38 CAL. REVOLVER SHOWN HERE. NEW SNAP-IN HOLSTER POCKETS WITH EXTRA-AMMUNITION KEEPERS WILL ACCOMMODATE PISTOLS SUCH AS THE 9MM BERETTA OR .38 CAL. REVOLVER WITH 4-INCH BARREL. PISTOL POCKETS CAN BE MODIFIED IN ACCORDANCE WITH [PARAGRAPH 6-44](#) TO ACCOMMODATE LARGE FRAME PISTOLS.
2. FOR DETAILS OF ITEMS STOWED IN SRU-31/P KITS, SEE NAVAIR 13-1-6.5.
3. REFER TO NAVAIR 13-1-6.7 SERIES FOR SPECIFIC ITEMS TO BE CARRIED.

Figure 6-10. Location of Survival Items in SV-2B

6-10

b. Fake securing line along radio set and secure with light weight rubber band. Stow radio set in radio pocket. Close radio pocket.

11. Document in accordance with OPNAVINST 4790.2 series.

12. If AN/PRC-112(V) or AN/PRC-112B Survival Radios are used, install and stow as follows:

NOTE

Steps a through h apply to AN/PRC-112B radios only. AN/PRC-112(V) radios do not require use of this plate.

a. Cut 1 X 2 3/8-inch (+1/8 inch, minus 0 inch) plate from any grade aluminum 0.090 (± 0.010 inch) thick.

b. Radius corners and deburr edges.

c. Cut two 2 3/8-inch lengths of 3/4-inch duct tape (NIIN 01-242-6473 or commercial equivalent). Center one length of tape lengthwise along one 2 3/8-inch side of the plate and the other length of tape lengthwise along the other side of the plate. Fold tapes over onto the plate.

d. Cut two 1-inch lengths of 3/4-inch duct tape. Center one of the 1-inch tapes lengthwise along each of the 1-inch ends of the plate and fold over onto the plate.

e. Cut a 6 1/2 inch-length of 1-inch duct tape. Fold one end of the tape back on itself 1 inch to form a pull tab.

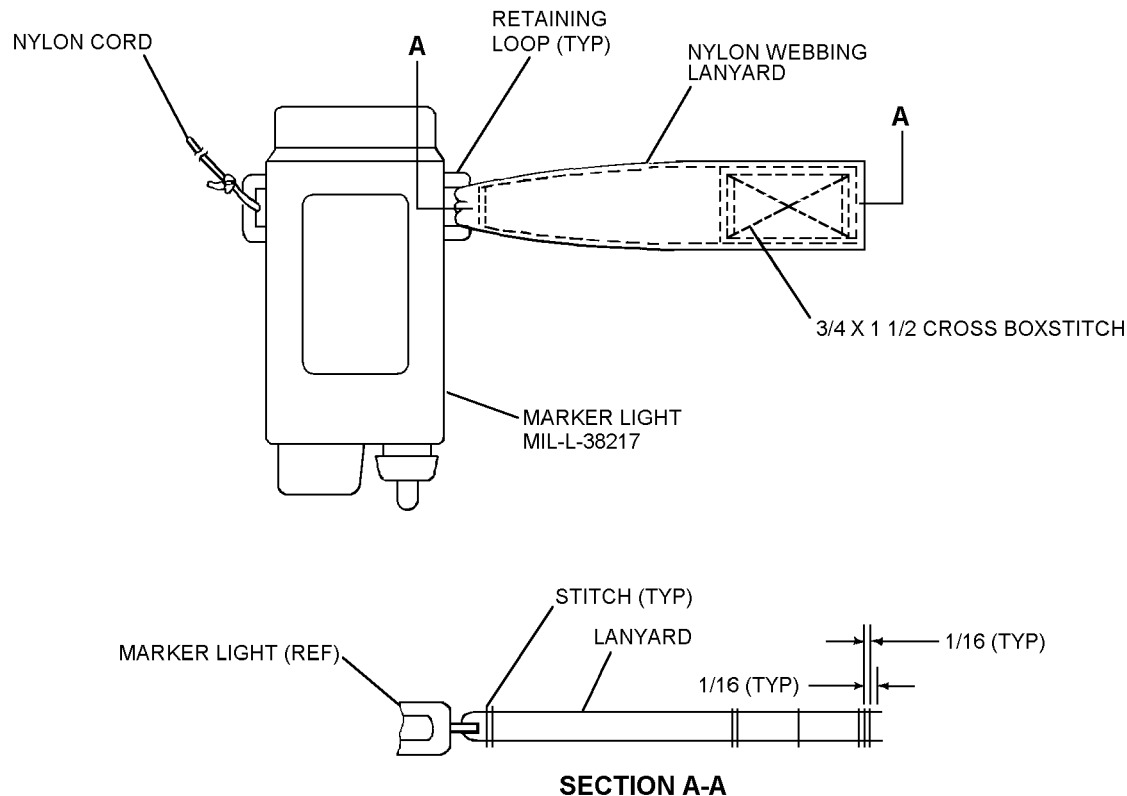


Figure 6-11. SDU-5/E Distress Signal Light Lanyard

6-11

f. Place tape cut in step e on flat surface with adhesive side up and folded pull-tab end to the right. Measure in two inches from the right end of the tape and place the plate made in steps a through d on the tape to the left of the two-inch measured point. (There will be open adhesive areas of tape on each side of the plate.)

NOTE

Do not cover antenna with tape.

g. Place PRC-112 series radio on work bench with buttons facing up and the word, TALK, closest to and to the right of the technician. Place the plate, prepared in preceding steps, over the buttons with the folded end of the tape on the right side of the radio just below the PUSH-TO-TALK button. Fold the tape over and press it to the right side of the radio body.

h. Fold tape on the left side over and press it to the left side of the radio body.

i. Cut a 48-inch length of Type I, nylon cord and sear ends.

j. Secure one end of cord to the grommet in the survival vest radio pocket forming a 2-inch loop around the grommet and tie off using bowline knot.

k. Secure one end of the nylon cord to the PRC-112 radio webbing or V-ring using a 2-inch loop around the webbing or V-ring and tie off using bowline knot.

l. Place PRC-112 radio in 12 X 12-inch ziplock plastic bag, NIIN 00-837-7757 or commercial equivalent.

m. Remove as much trapped air as possible from bag and tape over the closed ziplock closure using 2-inch duct tape.

NOTE

The Type I or IA cord can exit the bag at any point along the seal line. Location of exit point is not critical.

Bagged radio with excessive air trapped in bag will be difficult to stow in radio pocket. If difficulty is encountered during stowage, continue to press radio into radio pocket until sufficient air escapes to permit radio pocket flap closure.

n. Place bagged radio into a second ziplock bag and seal closure using duct tape as in step m above.

o. Fake securing line and secure with lightweight rubber band.

p. Stow radio in radio pocket.

q. Close radio pocket flap.

NOTE

AN/PRC-112 radios and batteries are currently undergoing rework/redesign to eliminate water leakage.

Bagging of radio will not make it waterproof, only water resistant.

Aircrew should not remove radio from ziplock bag until after they are in liferaft.

13. Deleted

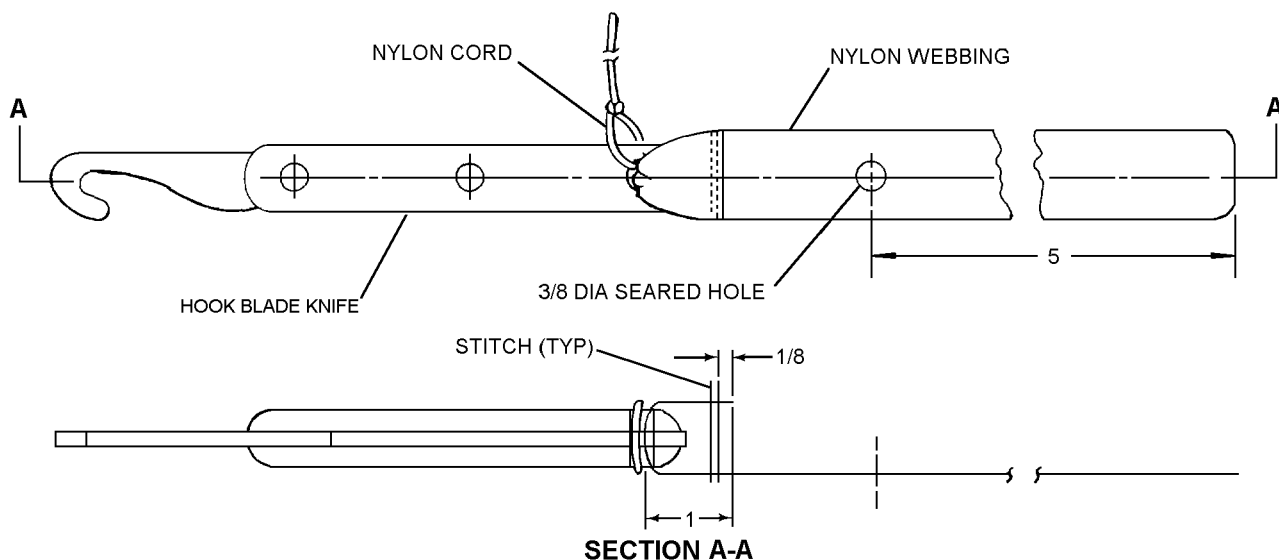
14. Tie a 48-inch length of nylon cord to both hook blade knife (if carried) as shown in figure 6-12 and to grommet on right shoulder strap with a bowline knot.

15. Cut and sear 9-inch length of 1-inch nylon webbing and round corners of one end. Sear a 3/8-inch hole 5 inches from rounded end. Place square end through loop, fold over 1 inch and double stitch 1/8 inch from folded end. See figure 6-12.

16. Stow hook blade knife in pocket on right side of vest with hook down and in open position, and 3/8-inch hole over radio pocket eyelet snap. Pass radio pocket flap through looped radio antenna and snap in place with hook blade knife tab extending.

17. Deleted

18. Cut a 60-inch length of nylon cord and sear ends. Tie a bowline knot to eyelet attachment of flare gun from MK-79 MOD 0 distress signal kit. Tie other end of line to existing line attached to inside of flare gun pocket using a bowline knot.



6-12

Figure 6-12. Hook Blade Knife Attachment

WARNING

Pyrotechnics must not be taken to the barracks and, when removed from bandolier, should be returned to original container. Ensure that the flare gun from MK-79 MOD 0 signal kit is empty of flares. To prevent accidental firing, ensure knife is installed prior to installing flares in vest.

19. Insert signal flare gun into flare gun pocket after complying with NAVAIR 13-1-6.5. Accordion-fold excess length of line and secure it with a lightweight rubber band. Ensure that flare gun is stowed with knurled knob back (cocked position) and empty of flares.

CAUTION

Ensure that protective plastic caps (NIIN 00-324-9158) are installed on flares before installation into webbing keepers.

20. Install signal flare gun flares into webbing keepers.

NOTE

If plastic bandolier is available, it is acceptable to stow it in the SV-2B instead of stowing flare cartridges in webbing keepers. Protective plastic caps are not required when bandolier is used.

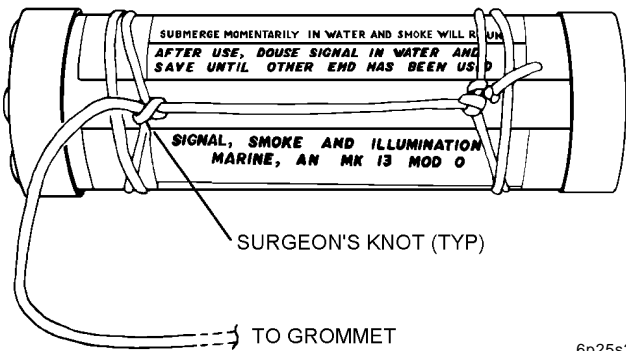
21. If plastic bandolier is available, secure it to SV-2B as follows:

a. Remove a 48-inch length of cord from bandolier and replace with a 12-inch length of nylon cord and sear ends.

b. Tie a bowline knot to hole provided in one end of bandolier and tie other end to top center webbing keeper.

22. Prior to installing MK-13 MOD 0 or MK-124 MOD 0 distress signal, cut an 80-inch length of nylon cord and sear ends. Tie an overhand knot in one end. Wrap end of cord two turns around one end of signal flare and tie with a surgeon's knot. Turns of cord shall overlap with all knots positioned snugly against each other. Route cord to opposite end of signal flare and tie in same manner as above. Cord between ties

shall be drawn tight. Secure free end of cord to distress signal light grommet with a bowline knot.



Step 22 - Para 6-25

6p25s22

23. Secure all additional items with a 48-inch length of nylon cord and stow in vest balancing weight.

6-26. REPAIRS AND FABRICATIONS. Repairs and fabrications shall be performed at the lowest level of maintenance possible. Table 6-3 lists the common repairs and fabrications to maintain serviceability.

6-27. REPAIRS. Any damaged portion of an SV-2B may be repaired or replaced at the discretion of the repairing activity. Refer to applicable documentation, specifications, or drawings for construction details.

6-28. FABRICATIONS. The following fabrications are performed to the SV-2 series to maintain the serviceability of the assembly.

6-29. FABRICATION OF POCKET ASSEMBLY FOR HELICOPTER AIRCREW BREATHING DEVICE (HABD), SRU-40/P. The HABD Pocket Assembly consists of a Bottle Pocket (figure 6-13) and a Hose Pocket Panel (figure 6-14) which are fabricated as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cloth, Nylon Duck	MIL-C-7219, NIIN 01-173-4436
As Required	Fastener Tape, Hook, 1-Inch	MIL-F-21840, NIIN 00-106-5973
As Required	Fastener Tape, Pile, 1-Inch	MIL-F-21840, NIIN 00-106-5974
As Required	Webbing, Textile, 1-Inch	MIL-T-5038G, NIIN 00-261-8579
As Required	Tape, Textile, 1-Inch	MIL-T-5038G, NIIN 00-753-6144

Materials Required (Cont)

Quantity	Description	Reference Number
As Required	Thread, Nylon, Size E, Sage Green	V-T-295, NIIN 00-204-3884
2	Grommet, Size 00	MS20230B20, NIIN 00-291-0302
1	Strap, Tie Down	MIL-S-23190, NIIN 00-111-3208
1	Beaded, Inflation Handle	975AS122-1 (Note)
1	Breathing Device, Helicopter Aircrew, SRU-40/P	1586AS301-1

Note: Obtain from Beaded Handle Assy (P/N 975AS121-11, NIIN 01-120-4752) or salvage from LPU-21 or LPU-23 beaded handles.

NOTE

All cut edges of nylon webbing and binding tape shall be seared to prevent fraying; use care not to form sharp edges. Unless otherwise specified all stitching shall be Fed Std Type 301 lockstitch, 7 to 10 stitches per inch with back or over stitch a minimum of 3/4 inch. Stitching shall be 1/8 inch from edge unless otherwise specified. All binding tape shall be sewn using two rows of stitching 1/8 inch apart. Use a china marker or equivalent for all markings.

6-30. Fabrication of Bottle Pocket. Refer to figure 6-13 and fabricate the bottle pocket as follows:

1. Measure and cut a piece of nylon duck cloth 4 3/4 X 8 inches.
2. Orient fabric so shorter 4 3/4-inch edges are at top and bottom.
3. Bind each 8-inch edge with 1-inch textile tape.
4. Fold the fabric and align so 4 3/4-inch edges meet.
5. Stagger placement of the seared edges to be side by side rather than stacked to reduce the number of layers.

6. Sew seared edges together with single row of stitches 1/4 inch from edge.

7. Cut 7 1/4-inch length of 1-inch webbing.

8. Orient webbing so ends (1-inch edges) are at top and bottom.

9. Mark a centerline the full 7 1/4-inch length of the webbing.

10. Orient the panel so the folded edge is on the left.

11. Align the seared edge of the duck cloth panel along the centerline of the webbing with the bottom of the panel even with the bottom of the webbing.

12. Sew the panel in place with two rows of stitches side by side 1/4 inch from the seared edge with minimum backstitch of 1-inch.

13. Cut a 12 3/4-inch length of 1-inch webbing.

14. Cut a 2-inch length of 1-inch pile tape.

15. Place pile tape on top of webbing at one end aligning the 1-inch edges and sew in place.

16. Turn webbing over so pile tape is face down and to the right.

17. Measure and mark the webbing at 3, 4, 7, and 10 inches from the right edge of the webbing.

18. Cut a 3-inch length of 1-inch hook tape.

19. Place hook tape on webbing between the 7 and 10-inch marks.

20. Sew the hook tape in place.

21. Slide a bead onto the webbing until it touches the hook tape.

22. Double fold that end of the webbing 3/8 inch end over end.

23. Sew the fold in place using three rows of stitches placed side by side (see figure 6-13, Detail A).

24. Orient the webbing so the hook tape is facing up and is on the left.

25. Orient the bottle panel so it's webbing is on the left and the folded edge of the panel is on the right.

26. Place the 7 1/4-inch webbing strip between the 3 and 4-inch marks on the beaded strip so the two lengths of webbing lay perpendicular to each other.

27. Align the top of the 7 1/4-inch strip so it is even with the top edge of the beaded strip.

28. Fold beaded webbing at the 4-inch mark so the 7 1/4-inch webbing strip is the middle layer.

29. Sew both webbing strips together using a 3/4 X 3/4-inch crossbox stitch.

6-31. Fabrication of the Hose Pocket Panel. Refer to [figure 6-14](#) and fabricate the Hose Pocket Panel as follows:

1. Measure and cut a 10 X 6 1/2-inch piece of nylon duck cloth.

2. Orient the fabric so the 6 1/2-inch edges are at the top and bottom.

3. Measure and mark the right edge 1 1/4 inches down from the top right hand corner.

4. Draw a cut line from the top left-hand corner to the 1 1/4-inch mark on the right edge.

5. Cut fabric along the cut line.

6. Double fold top and bottom edges 3/8 inch to the back side of the fabric.

7. Stitch a hemline 1/8 inch from the outer edge and another 1/4 inch from the outer edge.

8. Single fold the side edges 3/8 inch to the back side of the fabric.

9. Sew edges 1/8 inch from folded edge.

6-32. Attachment of Hose Pocket Panel to Pistol Pocket. Refer to [figure 6-14](#) and proceed as follows:

NOTE

Remove SRU-36/P from the pistol pocket and return it to supply in "F" condition. Then remove stitching that secures

SRU-36/P retaining strap inside the pistol pocket; remove and discard the strap.

1. Unfasten the flare pocket flap on the pistol pocket.

2. On the face of the flare pocket flap, measure and mark the left edge 1 inch down from the top left corner.

3. On the face of the flare pocket flap, measure and mark the right edge 2 1/4 inches down from the top right corner.

4. Position the hose pocket panel on the outside face of the flare pocket flap so the top left corner of the panel is aligned at the 1-inch mark and the top right corner is aligned with the 2 1/4-inch mark.

5. Sew the left and right sides of the panel in place on the flare pocket flap using one row of stitches 1/8 inch from the outer edge and another row 1/4 inch from the outer edge. Reinforce using minimum of 1 inch of backstitching.

6-33. Setting Grommet on Pistol Pocket. Refer to [figure 6-14](#) and proceed as follows:

1. Unfasten upper flap of flare pocket.

2. Flip it over and lay it flat so the pile tape is facing up and is at the bottom.

3. Measure and mark the right-hand edge 1 1/4 and 1 3/4 inches up from the bottom right-hand corner.

4. Measure and mark grommet locations 1 1/2 inches to the left of the 1 1/4-inch and 1 3/4-inch marks.

5. Punch holes at grommet location marks.

6. Set grommets in the two holes.

6-34. Attachment of the Bottle Pocket. Refer to [figure 6-13](#), and proceed as follows:

1. Locate the space between the attachment point of the pistol pocket to the vest and the bottom edge of the slide fastener tape of the general pocket.

2. If there is not a minimum of 1/2 inch of space between the pistol pocket attachment point and the bottom edge of the slide fastener tape of the general pocket, carefully remove the stitching which secures the right-hand side of the pistol pocket to the vest to obtain necessary space.

3. Measure and mark 1/2 inch to the left of the bottom edge of the slide fastener tape of the general pocket.

4. Position the bottle pocket so the free edge of the 7 1/4-inch webbing is placed at the 1/2-inch mark to the left of the bottom edge of the slide fastener tape of the general pocket.

5. Align the top corner of the webbing strip so it

is 3/8 inch below the top bound edge of the vest (see [figure 6-13](#), [Detail B](#)).

6. Sew the 7 1/4-inch edge of the webbing in place using three rows of stitching side by side beginning 1/4 inch from the free edge being careful not to sew beyond the existing seam line.

7. If pistol pocket stitches were removed, reattach using two rows of stitches being careful not to sew beyond the original stitch line of the bottle pocket.

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6-34A. Fabrication and Installation of Flashlight Attachment Straps (figure 6-12A). Fabricate flashlight attachment straps as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Thread, Nylon, Size E	V-T-295 NIIN 00-204-3884
As Required	Webbing, Textile Elastic	MIL-W-5664 NIIN 00-262-1655
As Required	Snap Fastener, Cap	MS27983-1 NIIN 00-891-9073
As Required	Snap Fastener, Socket	MS27982-2N NIIN 00-276-4970
As Required	Snap Fastener, Stud	MS27983-3 NIIN 00-276-4908
As Required	Snap Fastener, Post	MS27983-4 NIIN 00-276-4978

NOTE

All stitching shall be in accordance with ASTM-D-6193, Type 301 lockstitch, 7 to 10 stitches per inch with 1/2-inch minimum back or over stitching.

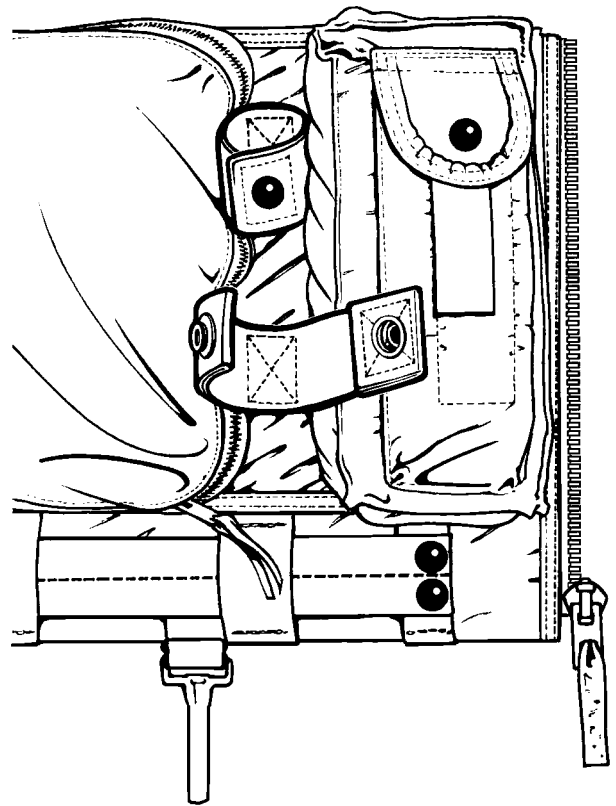
1. Cut two 9 1/2-inch long pieces of elastic webbing.
2. On each piece of webbing, fold each end over 1 1/4 inch and stitch using a 1-inch square box x stitch. Ensure stitching comes no closer than 1/8 inch from the edges of the webbing.
3. At the intersection of the two diagonal lines of stitching, install a cap on one side of webbing and a socket on the other. Repeat this step on the opposite end of the webbing using a stud and post. Repeat this step on the other piece of elastic webbing.

NOTE

Ensure snaps are installed so elastic can wrap around the flashlight and snap with the cap and socket laying over top of the stud and post.

4. Orient both pieces of elastic webbing between radio pocket and right pocket zipper. Stitch first piece of webbing 1 3/4 inch below top of vest, using a 1/2-inch wide by 1 1/4-inch long box x stitch. Ensure the stud and post are on same side as right zipper pocket. Repeat procedure with second piece of elastic webbing attached 2 inches below bottom of first piece of elastic webbing.

5. Install right-angle flashlight.



6-12a

Figure 6-12A. SV-2B Vest with Flashlight Keeper

6-35. Stowing SRU-40/P Helicopter Aircrew Breathing Device (HABD). To stow the HABD in the reconfigured survival vest proceed as follows:

1. Ensure the SRU-40/P has been inspected in accordance with NAVAIR 13-1-6.5 and is in ready-for-issue (RFI) condition.
2. Place the HABD in the new pocket.
3. Secure the strap around the neck of the bottle.
4. Route the regulator hose down through the top of the hose pocket in a single U-shaped loop, leaving the regulator out.
5. Orient the open end of the mouthpiece cover to face the entrance slide fastener of the vest.
6. Pass a plastic tie wrap through the center of the mouthpiece cover, around the top and through both grommets.
7. Secure the tie wrap so it is tight around the cover but not pinching.
8. Place mouthpiece inside mouthpiece cover and position the mouthpiece so it is between the bottle and the regulator with the regulator purge cover facing toward the entrance slide fastener of the vest.
9. Document in accordance with OPNAVINST 4790.2 Series.

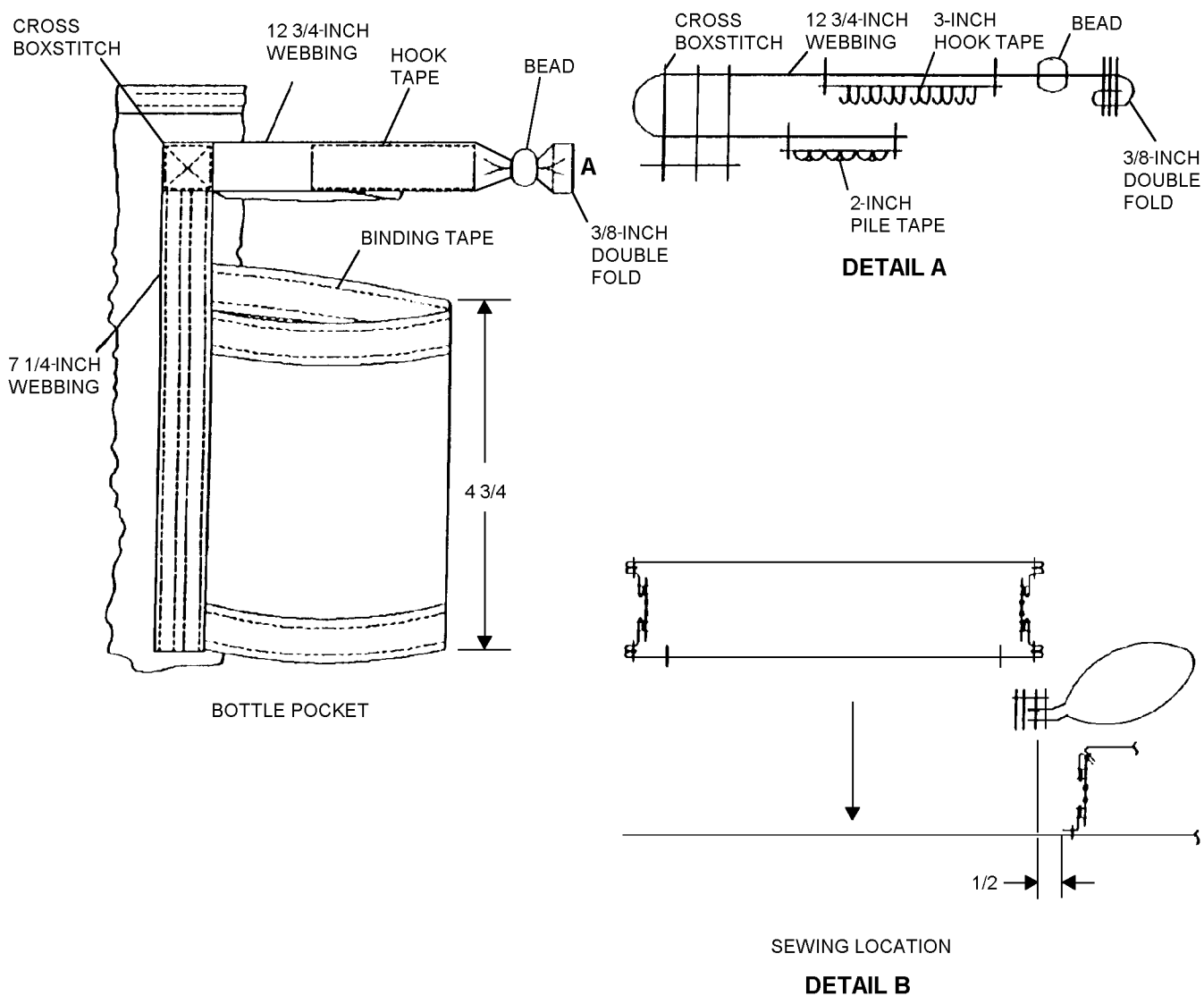


Figure 6-13. SRU-40/P HABD Bottle Pocket Assembly

6-13

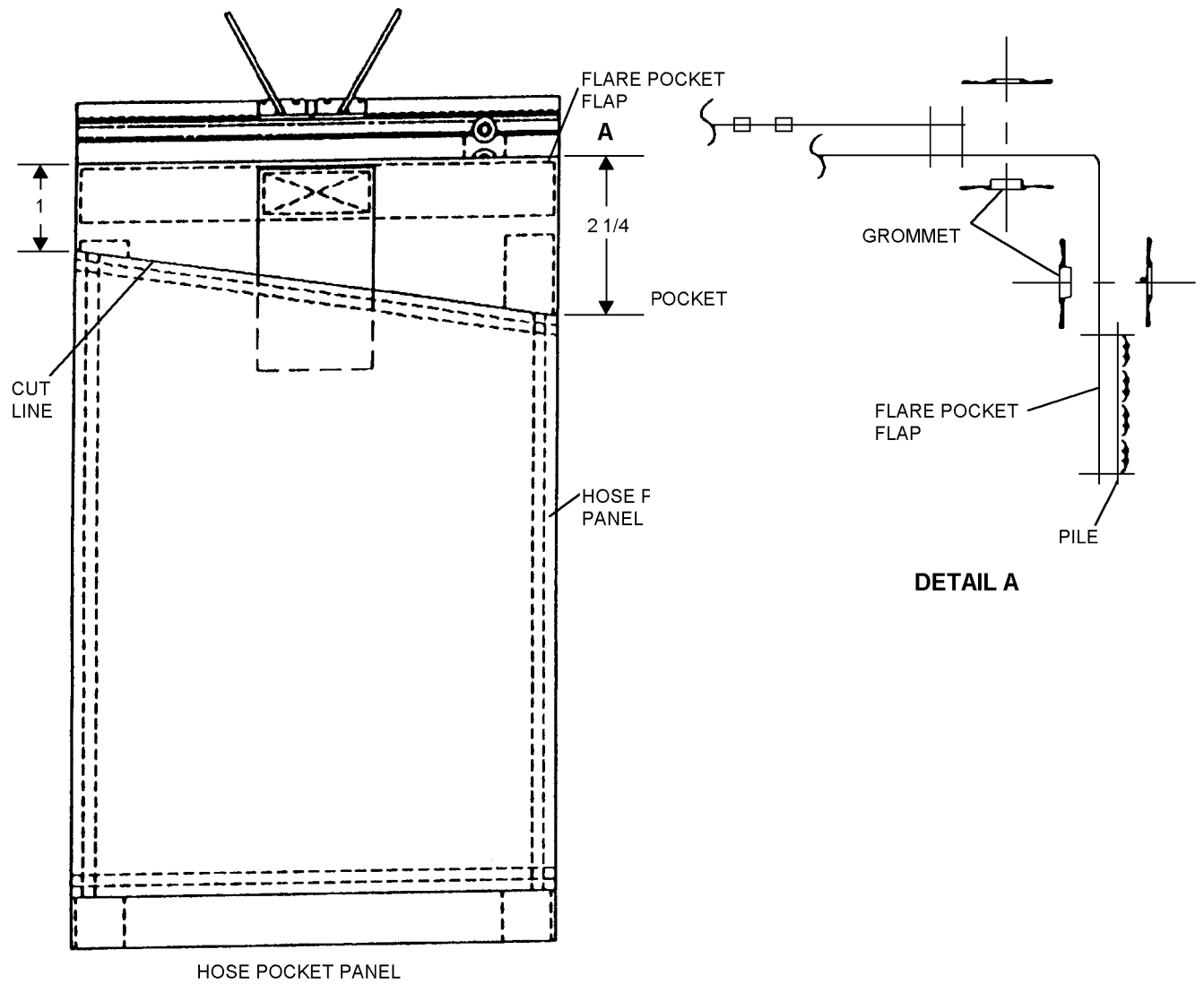


Figure 6-14. SRU-40/P HABD Hose Pocket Assembly

6-36. Deleted.

6-37. FABRICATION AND INSTALLATION OF HELICOPTER RESCUE STRAP. To replace missing, damaged, frayed, or improperly installed rescue strap, proceed as follows:

Materials Required		
Quantity	Description	Reference Number
1	Ring, Parachute Harness, V-Type	MS70102-2 NIIN 00-113-7171
58 Inches	Webbing, Nylon Type XXVII	MIL-W-4088 NIIN 00-530-1489
As Required	Cord Nylon, Type I, Class 1, No. 6	V-T-295 NIIN 00-262-2780
As Required	Thread, Nylon, Size E	V-T-295 NIIN 00-248-9715
2 Inches	Fastener Tape, Hook, Class 2, 2-Inch Wide	MIL-F-21842 NIIN 00-926-4931
4 1/2 Inches	Fastener Tape, Pile, Class 2, 2-Inch Width	MIL-F-21842 NIIN 00-926-4930

NOTE

The basic SV-2B is designed to fit chest sizes from 40 to 48 inches. Vests which have been modified to accommodate larger chest sizes must also be fitted with a longer webbing strap. At least 4 inches of webbing must remain when the vest is worn and the strap tightened.

1. Sear ends of 58-inch length of nylon webbing.

WARNING

Assure that V-ring is correctly positioned with protruding ridge against strap prior to installation. Refer to figure 6-16. Improperly installed V-rings may not provide adequate friction to keep webbing tight during hoisting operations.

2. Install parachute harness V-ring on strap and secure by stitching as indicated in figure 6-15. Use nylon 6-cord, five to six stitches per inch.

3. Starting at left side of vest, position strap along upper edge of vest so that fixed crossbar of V-ring is aligned with slide fastener.

4. Stitch strap along top left side of vest using size E nylon thread, 8 to 10 stitches per inch, backstitching 6 inches. Begin stitching approximately 3 inches from the slide fastener. Strap shall be stitched to outside of vest material with stitches passing through binding tape approximately 1/4 inch from the selvage edge.

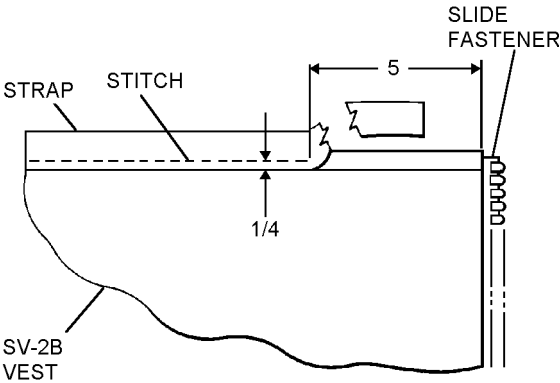
5. Before stitching the webbing to the right side of the vest an allowance must be made for any stretching of the elastic webbing at the back of the vest. In most cases, the elastic webbing stretches very little, if any. Therefore, if the following precautions are taken, the webbing will not interfere with the wearing of the vest:

a. Ascertain that there is no slack in the elastic webbing before stitching the webbing strap to the right side of the vest. It is not necessary to extend the elastic webbing; however, the elastic webbing should be taut.

b. Allow approximately 1/4 inch of slack in the webbing strap that is being added before proceeding to stitch the webbing to the right side of the vest. More than 1/4 inch slack will cause the webbing to bunch up and cause discomfort.

6. Stitch the webbing to the right side of the vest in the same manner as on the left side.

7. Terminate stitching approximately 5 inches from slide fastener at front of vest. Back-stitch 6 inches.



Step 7 - Para 6-37

6p37s7

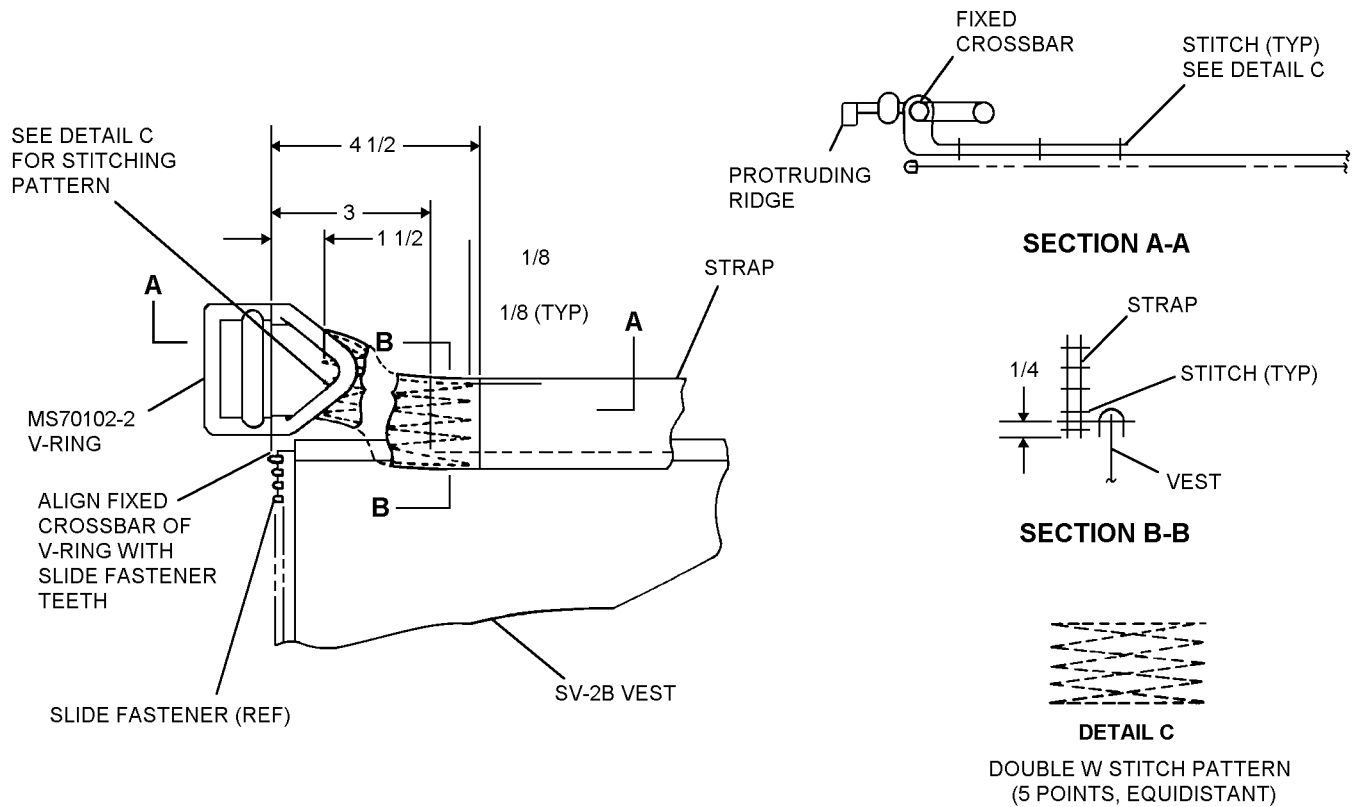


Figure 6-15. Helicopter Rescue Strap for SV-2 Series Survival Vest

6-15

NOTE

To determine correct position for attaching pile tape to strap, aircrewmember must don vest and route strap end through V-ring, adjusting to a comfortable fit.

8. Reeve strap through V-ring to a position for comfortable fit. Mark strap 4 3/4 inches from the fixed crossbar of V-ring. Cut and sear strap at this point. See figure 6-16.

9. Lift strap and mark bottom webbing at V-ring; make another mark 4 1/2 inches to left.

NOTE

Machine stitching in the following steps is to be size E nylon thread, 8 to 10 stitches per inch. Backstitch exposed ends 1 inch.

10. Stitch 4 1/2-inch pile tape to upper surface of bottom strap between marks made in step 9.

11. Stitch 2-inch hook tape to under side of upper strap. Start 1/2 inch from seared end.

12. Trim selvage edge of fastener tapes after sewing to webbing.

6-38. Deleted.

6-39. Fabrication of Oxygen Hose Securing Tab Subassembly. To fabricate and install the securing tab, proceed as follows:

Materials Required

Quantity	Description	Reference Number
4 1/2 Inches	Nylon Tape, Tape IV, 1-Inch	MIL-T-5038 NIIN 00-261-8579
1 Inch X 1 Inch	Fastener, Pile	A-A-55126 NIIN 00-405-2263
1 Inch X 1 Inch	Fastener, Hook	A-A-55126 NIIN 00-405-2266
As Required	Thread, Nylon, Size E, Sage Green	V-T-295 NIIN 00-204-3884

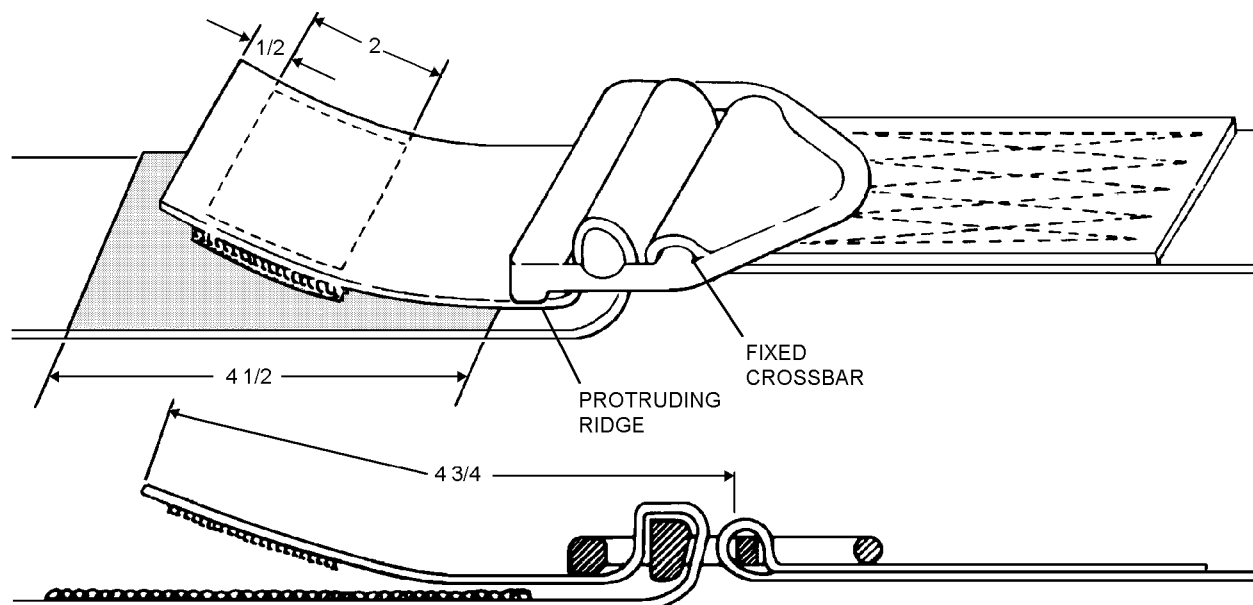


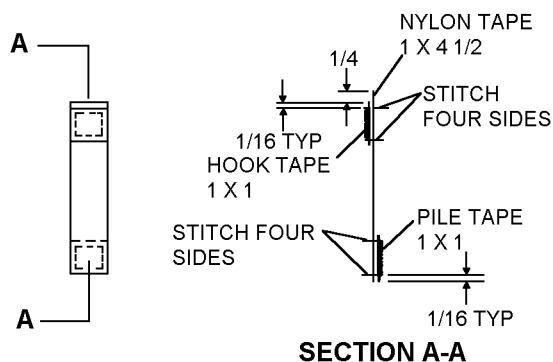
Figure 6-16. Reeving V-Ring

6-16

Figure 6-17. Deleted

1. Stitch the pile fastener tape on one end of the 4 1/2-inch, Type IV nylon tape and stitch the hook fastener tape 1/4 inch from the opposite end of the opposite side of the nylon tape.

2. Locate and stitch oxygen hose securing tab sub-assembly on left-hand main panel of survival vest below survival knife sheath and flare-gun/holster pocket. See figure 6-19.



6-40. REMOVAL OF KNIFE SHEATH, FLARE GUN AND HOLSTER POCKET ASSEMBLY. Remove stitching securing the knife sheath, flare gun and holster pocket (P/N 67A100D3-1) to the left side vest panel (P/N 67A100D6-1). Salvage material which can be used in fabricating the SDU-5E Strobe Light Pocket, MK-13 (or MK-124) flare holders, or reinforcement for the 237C100 Oxygen Regulator Bracket. The remaining material shall be scrapped.

Figure 6-18. Deleted

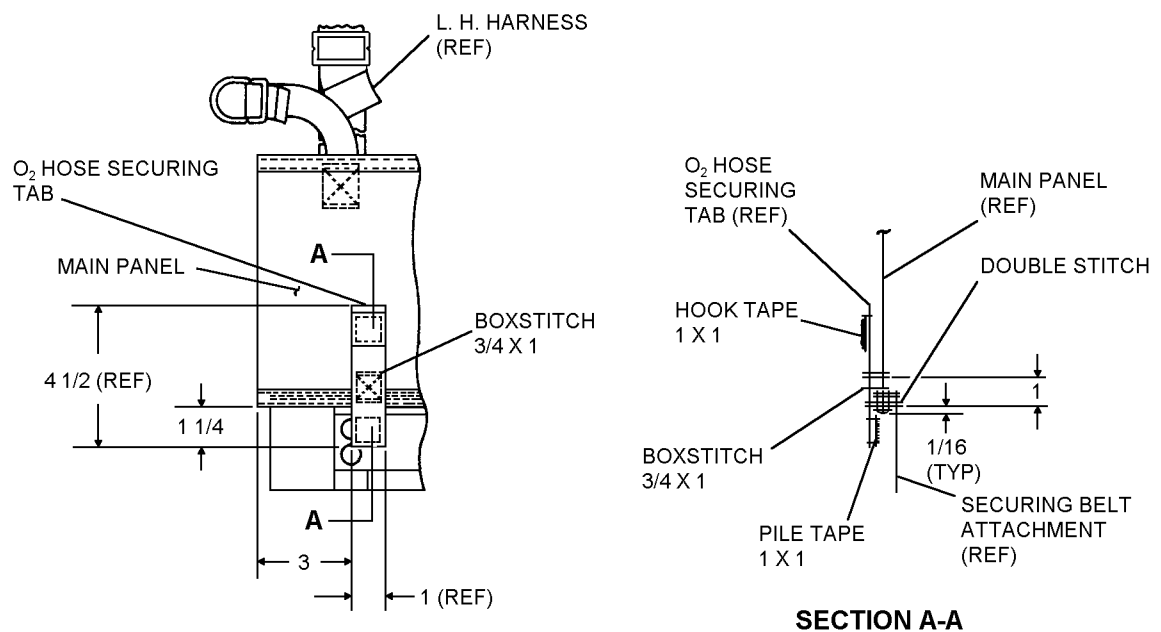


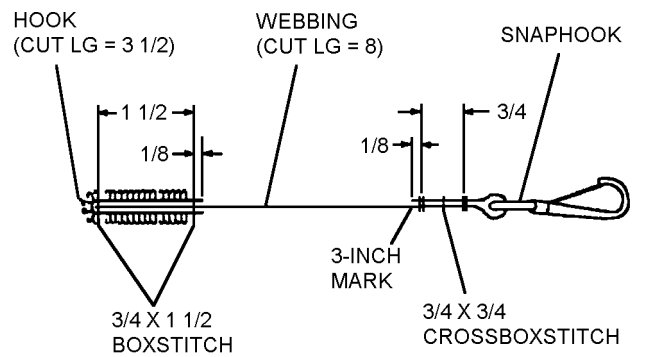
Figure 6-19. Installation of Oxygen Hose Securing Tab

6-41. FABRICATION OF HEED TETHER The HEED Tether is comprised of two assemblies, a snap hook assembly and a handle assembly. Each assembly is fabricated as follows:

Materials Required		
Quantity	Description	Reference Number
1	Bead, Inflation Handle	975AS122-1
As Required	Thread, Nylon, Size E, SG Type 1 or Type 2	V-T-295 NIIN 00-204-3884
As Required	Fastener Tape, Pile, 1-Inch	MIL-F-21840 NIIN 00-106-5974
As Required	Fastener Tape, Hook, 1-Inch	MIL-S-21840 NIIN 00-106-5973
1	Snap Hook, 1-Inch Base	MIL-S-43770/1 NIIN 01-187-9402
As Required	Cord, Type 1A	MIL-C-5040 NIIN 00-292-9920
As Required	Webbing, 1-Inch, Nylon, Type II, Shade 33538	MIL-W-4088
As Required	Tape, Webbing, 1-Inch, (Alternate)	MIL-T-5038 NIIN 00-262-1643

NOTE

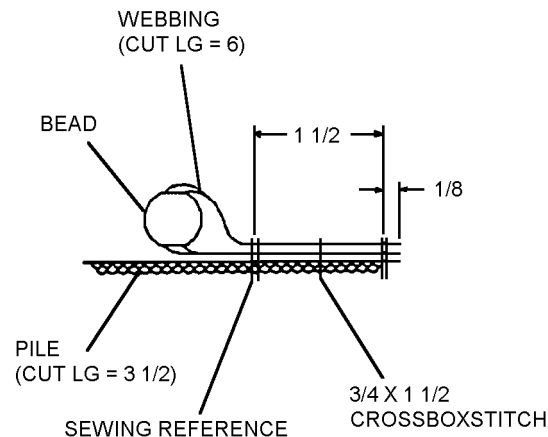
- All stitching shall be 301 lock stitch, 6 to 9 stitches per inch, 1/8 inch from edge.
1. For snap hook assembly, measure 8-inch length of 1-inch webbing and sear cut ends.
- a. Measure and mark 3 inches from either end of webbing.
- b. Insert marked end of webbing through snap hook and fold over to 3-inch mark and sew using 3/4 x 3/4-inch cross boxstitch.
- c. Cut 3 1/2-inch of 1-inch hook tape and fold in half with hook side out. Sandwich free-end of webbing between folded hook tape and sew together using 3/4 x 1 1/2-inch boxstitch.



Steps 1b and 1c - Para 6-41

6p41s1b

2. For handle assembly, measure 6-inch length of 1-inch webbing and sear cut ends.
- a. Thread end of webbing through inflation handle bead; center, fold in half, and align webbing ends.
- b. Cut 3 1/2-inch length of pile tape. Measure and mark sewing reference line at mid point of pile tape.
- c. Place pile tape on top of folded webbing with pile facing out. Align end of pile with ends of webbing and sew together using 3/4 x 1 1/2-inch cross boxstitch leaving opposite end of pile tape free and extending beyond handle bead.



Steps 2a thru 2c - Para 6-41

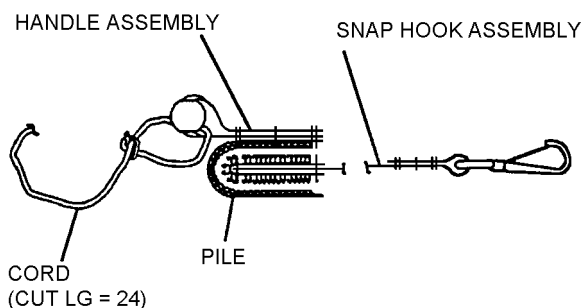
6p41s2a

3. To assemble snap hook assembly and handle assembly, align sewn end of pile tape on handle assembly with end of hook tape sewn to top of snap hook webbing. Mate pile tape with hook tape around end of snap hook assembly and along bottom of webbing.

4. Cut a 24-inch length of cord and thread end through webbing loop on which handle bead is installed and secure loose loop with bowline knot and lock with overhand knot. Total length of assembled tether from tip of snap hook to neck of HEED should be 29 inches \pm 1 inch.

NOTE

The opposite end of the cord is secured to neck of HEED bottle.



Steps 3 and 4 - Para 6-41

6p41s3

6-41A. Modification for Installation of Joint Helmet Cueing System (JHMCS) Quick Disconnect (Q.D.) Fitting Access. (Figure 6-20)

NOTE

All stitching shall be in accordance with ASTM-D-6193, Type 301 lockstitch, using size E nylon thread, 7 to 10 stitches per inch with 1/2-inch minimum back or over-stitching.

This modification is for aircrewmembers utilizing the LPU-36/P flotation collar who, after being properly fitted in accordance with paragraph 6-13, have access to the Q.D. blocked by the life preserver attachment belt on the SV-2B.

1. With the aircrewmember in a seated position and wearing the SV-2B over the JHMCS equipped torso harness, using a marking pencil, ink, or chalk, mark the portion of the 3-inch life preserver attachment belt webbing covering the quick disconnect fitting.

1A. To remove the life preserver attachment band from the 3-inch life preserver attachment belt webbing, carefully cut stitching securing the attachment band to attachment belt, being careful not to nick or damage fabric. Discard the attachment band.

NOTE

No more than 2 1/2 inches in width of the three-inch wide webbing may be removed to accomplish this modification, however the rest of the 3-inch webbing may not be removed and the cut out may not exceed upwards past the 3-inch webbing. If the Q.D. is positioned above the 3-inch webbing, the aircrewmember must be fitted with the Type II Airsave Survival Vest.

2. If the cut out area overlaps the leg strap webbing, the leg strap 1-inch webbing with snap hook must be removed and re-sewn in the same manner as originally installed, 3/8 inch forward of the cut out area.

3. Sear cut the marked area of the 3-inch webbing to be removed.

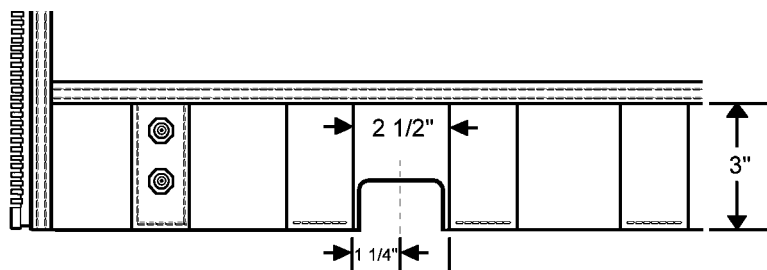


Figure 6-20. Installation of the JHMCS Q/D Bracket for Hard to Fit Aircrew

6-20

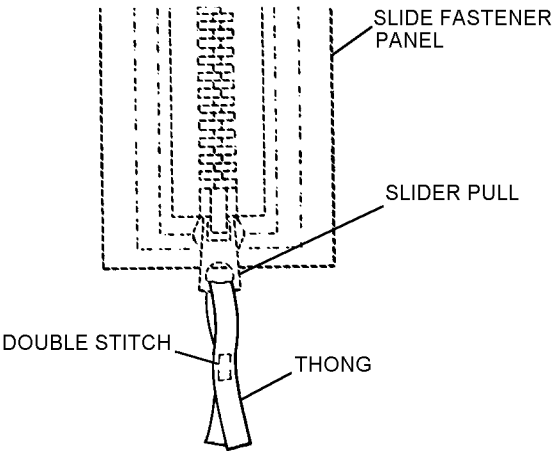
6-42. Modification of Slide Fastener Assembly.
Authorized modification of the slide fastener assembly is limited to the following:

Materials Required		
Quantity	Description	Reference Number
1	Bead, Handle	975AS122-1
As Required	Tape, Nylon, Type III, 3/4-Inch	MIL-T-5038 NIIN 00-176-8083
As Required	Thread, Nylon, Size E	V-T-295 NIIN 00-204-3884 or NIIN 00-244-0609
As Required	Fastener Tape, Pile, 1-Inch	MIL-T-21840 NIIN 00-106-5974
As Required	Fastener Tape, Hook, 1-Inch	MIL-T-21840 NIIN 00-106-5973

NOTE

All stitching shall be type 301, straight line, 8 to 12 stitches per inch.

1. Fabrication and installation of slide fastener thong:
- a. Sear cut 4-inch length of 3/4-inch tape.
 - b. Route tape through opening in slider pull, fold double, and double stitch using size E nylon thread.



Step 1b - Para 6-42

6p42s1b

- 2. Modification of left and right side pockets having medium heavy slide fastener chains opening from rear:
 - a. Remove the two stops from end of slide fastener chain.
 - b. Move slider assembly on lower outboard end of slide fastener chain upward to close pocket slide fastener chain.
- NOTE**
- Carefully remove 1/2 inch of stitching as necessary to install new slider on webbing of slide fastener chain. Resew if necessary.
- c. Install second slider assembly in end of slide fastener chain.
 - d. Install full stop on end of slide fastener.
 - e. Move slider to end stops to open pocket.

- f. Lay vest on flat surface with pockets up and locate slide fastener chain of large side pocket for survival items. Starting from rear center of vest, trace horizontally along slide fastener chain toward pistol pocket stopping at point where slide fastener chain turns 90 degrees.
 - g. From stopping point, retrace back along slide fastener chain 3 inches. Position end of 4-inch length of pile tape at this point, pile side up, with length extending along pocket edge 1/8 inch from fabric edge (approximately 1/2 inch from slide fastener chain).
 - h. Stitch pile in place around all sides ensuring 1 1/2-inch overstitch.
 - i. Sear cut 8-inch length of 3/4-inch tape, route end through opening on end of slider pull, and fold in half with ends even. Sew together using 3/8 x 1 3/8-inch boxstitch 3/4-inch from folded end of at slider pull.
 - j. Thread tape through handle bead and move bead back close to slider.
 - k. Fold open end of tape twice to form 3/8-inch double fold and stitch in place. Move bead handle to rest against folded end of thong.
1. Lay vest out on flat surface with pockets facing out. Center both sliders on horizontal (top) length of slide fastener chain. The forward, or outboard slider is the one farther from the center of the vest (wearer's back) or nearest to the chest slide fastener (away from center of vest). Leave thongs facing in this direction to determine position of hook tape.

m. Position 3/4 x 3/4-inch piece of hook tape on each thong, with hook facing forward, 3/4 inch from fold at slider end; secure by stitching all sides.

n. Final position of forward (outboard) slider shall be no closer than 1/2 inch from 90 degree turn on horizontal chain with thong positioned toward center of vest and attached to pile tape.

o. The rear slider shall be positioned as close as possible to the forward slider and attached in the same manner.

6-43. FABRICATION AND INSTALLATION OF SDU-39/N DISTRESS STROBE LIGHT LANYARD. The following instructions for fabrication and installation of the SDU-39/N lanyard should be used for all applications of the SDU-39/N Strobe Light (figure 6-25).

Materials Required

Quantity	Description	Reference Number
As Required	Webbing, Nylon, Yellow	MIL-T-5038, NIIN 00-190-0521
As Required	Thread, Size E, Yellow	V-T-295 NIIN 00-263-9931
	-or-	
As Required	Thread, Green, or OD, or Sage Green	NIIN 00-204-3884 NIIN 01-162-4444 NIIN 00-616-0079
As Required	Cord, Nylon, Type 1	NIIN 00-240-2154
	-or-	
As Required	Cord, Nylon, Type 1A	NIIN 00-292-9920

1. Sear cut a 16 1/2-inch length of 1-inch nylon webbing.

2. Fold webbing in half aligning ends. Sew together 1/2 inch from folded end and all around length of webbing 1/8 inch from the edge.

3. Sew a 3/4 X 3 1/2-inch boxstitch 1/8 inch from seared end.

4. Measure 4 3/8 inches from seared end and mark. Sew two rows of stitches across webbing at mark.

5. Sear a 5/8-inch hole 3 7/8 inches from seared end.

6. Pass a length of Type I nylon cord through the hole at the base of the distress light ON/OFF switch and through the loop at the webbing fold.

7. Tie ends of cord together with an overhand knot leaving enough slack in the cord to allow 1/2 to 1 inch distance between the webbing loop and base of light. Sear cut excess cord 1 inch from knot.

8. Pass one end of 48-inch length of Type I nylon cord through the loop attaching the lanyard to the light and secure with a bowline knot. Attach other end of cord to the loop inside the stowage pocket and secure using a bowline knot.

9. Install light in pocket with dome end down. Fake excess nylon cord together, secure with light rubber band, and stow in pocket with light.

10. Allow lanyard to extend from pocket. Place seared hole in lanyard over appropriate snap fastener and close pocket.

6-44. MODIFICATION OF SV-2B SURVIVAL VEST TO ACCOMMODATE LARGE FRAME PISTOL. The SV-2B Survival Vest shall be modified to accommodate a large frame pistol in accordance with ACC 513. Modification shall be performed at intermediate maintenance as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Webbing, Typ 4, 1-Inch	NIIN 00-261-8579
As Required	Thread, Size E, Type 1, Class A	V-T-295 NIIN 00-204-3884
2	Socket, Snap Fastener	MS27976-18 NIIN 00-281-4356
2	Clinch Plate	MS27976-38 NIIN 00-276-4283

1. Cut two lengths of 1-inch webbing; 11 1/2 inches and 8 inches.

2. Fold and sew one end of each webbing length, looped and doubled in the same manner as the original trigger and hammer webbing on the holster pocket.

NOTE

Flattened loop and doubled sections of webbing should be approximately 1 1/2 inches long, including stitching.

3. Install socket and clinch plate on doubled sections of webbing at midpoint between stitching.

4. Cut existing trigger and hammer webbing from holster pocket leaving one inch of webbing (measured on shortest side) still attached to the holster pocket.

5. Attach new webbing to remaining one inch sections of original webbing using 3/4-inch cross box-stitch (F-thread).

NOTE

The end of the new webbing shall extend (overlap) to within 1/8 inch of base of original webbing.

6. Remove angled section of stitching that extends into lower section of the holster pocket. Do not disturb stitching on holster pocket trim.

7. Measure one inch up from bottom of holster pocket (on shorter side of pocket), cut and sear fabric immediately inboard of holster trim. Lanyard should remain undisturbed and still attached to holster pocket trim.

8. Document in accordance with OPNAVINST 4790.2 Series.

Figures 6-21 thru 6-24 Deleted.

Pages 6-41 thru 6-42 Deleted.

6-45. FABRICATION OF THE OXYGEN MASK STOWAGE RETAINING SNAP.**Materials Required**

Quantity	Description	Reference Number
1	Stud, Snap Fastener	AN227-8B NIIN 00-276-4934
1	Post, Snap Fastener	AN227-9B NIIN 00-276-4978
As Required	Webbing, Textile, Type IV, 1 1/2-Inch	MIL-T-5038 NIIN 00-263-2472 or Equivalent
As Required	Thread, Nylon, Size E	V-T-295 NIIN 00-204-3884 or Equivalent

1. Sear cut a 1 1/2-inch length of webbing. (Ensure no sharp edges exist after sear cutting webbing.)

2. Attach the webbing below the adjustment buckle on the left shoulder strap of the SV-2B using ASTM-D-6193, Type 301 lockstitch, 7 to 10 stitches per inch with a minimum backstitch of 1 inch. Stitching shall be approximately 1/8 inch from all edges of the snap fastener webbing. Exact position should be determined by the aircrewmember.

3. Punch a hole through the 1 1/2-inch piece of webbing, at the center and the shoulder strap. Install the post and stud snap fastener.

6-45A. INSTALLATION OF RADIO POCKET TO ACCOMMODATE AN/PRC-112B, AN/PRC-149 AND AN/PRQ-7 SURVIVAL RADIOS.**Materials Required**

Quantity	Description	Reference Number
1	Pocket, Stowage	829AS146-1 NIIN 01-275-8735
As Required	Thread, Nylon Size E	V-T-295 NIIN 00-204-3884
As Required	Webbing, Nylon Type VIII	MIL-W-4088 NIIN 00-261-8585

1. Remove existing radio pocket and flashlight retainer straps from the SV-2B Survival Vest. Older

vests may have flashlight retainer straps attached directly to the radio pocket.

2. Position Radio Pocket 829AS146-1 with its bottom flush against the top of the LPU securing assembly strap. Looking at the front of the pocket, mark proper position of pocket onto SV-2B Survival Vest by aligning the side of the pocket with the slider 1/4 inch in from the seam formed by the installation of the main entrance slide fastener to the vest. The other side of the pocket will be attached to the vest against the slide fastener webbing on the survival items pocket.

NOTE

When attaching the pocket to the vest, all stitching shall be size E thread, 8 to 10 stitches per inch with a minimum of 1-inch backstitch.

3. As per the alignment marks, begin stitching at upper left edge of pocket, continue down to bottom of pocket, across the bottom to the right edge and up the right edge to the top of the vest. The top of the pocket shall be sewn directly to the top edge binding tape of the SV-2B while the other three sides shall be stitched through the radio pocket's edge binding tape, 1/8 inch from outside edge, with a second row of stitches, 1/8 inch in from the first.

4. Reinforce the radio pocket to the vest by stitching a 4 inch length of Type VIII Nylon Webbing, 2 1/2 inches from the top of the inside of the radio pocket using a double cross box stitch.

5. Reattach flashlight retainer straps in the same position prior to removal by stitching to the radio pocket edge binding tape with three rows of E thread stitching, 6 to 8 stitches per inch. If old straps are deemed unserviceable, fabricate new straps using old straps for reference.

NOTE

When finished, new pocket may reach 1 to 1 1/2 inches above the top of the SV-2B.

6. Inspect final attachment of radio pocket to SV-2B.

7. Document maintenance in accordance with OP-NAVINST 4790 Series.

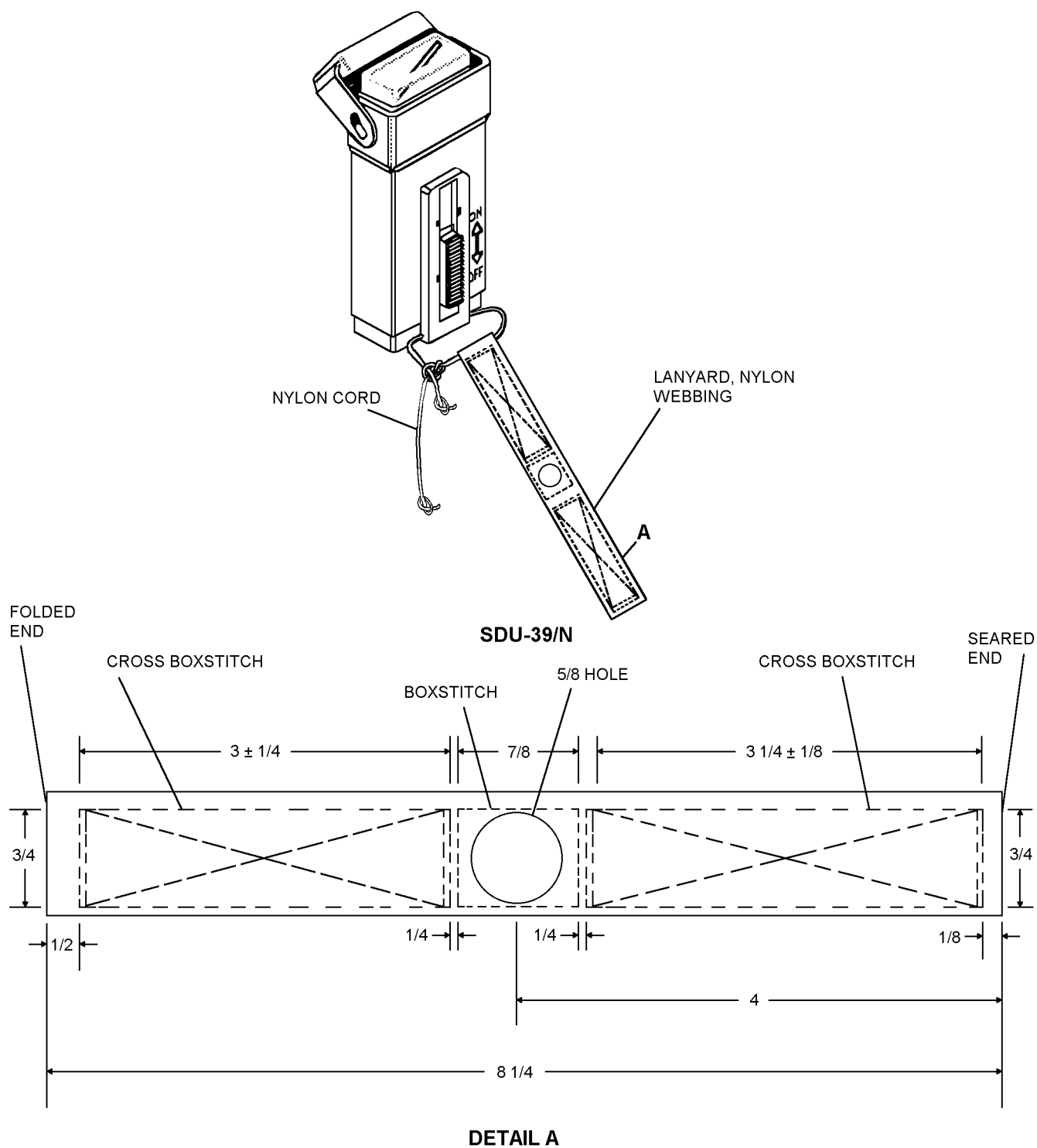


Figure 6-25. Fabrication of SDU-39/N Distress Strobe Light Lanyard

6-25

Section 6-2. CMU-21/P22P-7(V) Survival Vest

6-46. GENERAL.

6-47. The CMU-21/P22P-7(V) Survival Vest is an SV-2B Survival Vest modified to allow expansion of its circumference so it can be worn over bulky clothing such as A/P22P-7(V) anti-exposure apparel (Chapter 5) and body armor. See NAVAIR 13-1-6.7-1 for aircraft application tables.

6-48. CONFIGURATION.

6-49. The CMU-21/P22P-7(V) is manufactured at organizational level maintenance by modifying the SV-2B Survival Vest in accordance with ACC 522, Amend 2. All features and materials of the SV-2B have been retained. An extension panel has been added to front structure of the vest to permit increase in size to provide greater comfort and mobility when worn over bulky clothing and body armor. When not in use the panel is stowed on the inner wall of the vest. Amendment to ACC 522 further modifies the SV-2B Survival Vest to include lengthening the helicopter rescue (lift) strap to be compatible with addition of extension panel. See paragraph 6-57.

6-50. APPLICATION.

6-51. The CMU-21/P22P-7(V) Survival Vest is designed for use of aircrewmembers of P-3 all series, C-130 all series, and rotary winged aircraft.

6-52. MODIFICATIONS.

6-53. The CMU-21/P22P-7(V) Survival Vest shall be updated by comparing its configuration with directives listed in tables 6-2 and 6-4. Repairs, fabrications, and installation, required to maintain serviceability are listed in table 6-5.

6-54. MAINTENANCE.

6-55. INSTALLATION OF EXTENSION PANEL.

Installation of extension panel is as follows:

Materials Required

Quantity	Description	Reference Number
1	Kit, Survival Vest, SV-2B Extension Panel	9522LKA125624LX
As Required	Thread, Nylon, Size E	V-T-295 NIIN 00-204-3884

Materials Required (Cont)

Quantity	Description	Reference Number
As Required	Ink, Black, Waterproof	TT-I-542 NIIN 00-161-4229
As Required	Cloth, Nylon, Duck	MIL-C-7219 NIIN 01-173-4436
As Required	Fastener Tape, Hook	MIL-F-21840 NIIN 00-405-2265
As Required	Fastener Tape, Pile	MIL-F-21840 NIIN 00-404-2265
1	Slide Fastener, Type IV, Style 8, Size MH, cut to required length, Short Pull Tab	A-A-55634 NIIN 00-164-9984

NOTE

All stitching shall be 8 to 10 stitches per inch with one inch back stitching.

Prior to kit installation check to ensure slide fastener provided with kit mates with entrance slide fastener on vest. If there is no match, remove slide fastener from vest and replace with fastener provided in kit.

1. Position and sew extension panel from kit to inside of vest aligned along back edge of attaching fabric of vest's slide fastener (figure 6-26 and 6-27).

NOTE

Ensure installed extension panel does not interfere with operation of vest's normal entrance slide fastener when panel is in stowed position.

2. Place panel in stowed position and mark place on vest where panel's hook tapes meet vest.

3. Sew pile tapes in positions marked in step 2.

NOTE

Holster pocket must be open when installing upper pile tape.

4. Place extension panel in stowed position by folding it back so hook and pile tapes mate.

Table 6-4. CMU-21/P22P-7(V) Directives

Description of Modification	Application	Modification Code
Installation of Extension Panel (Note 1)	All SV-2B Survival Vests worn by aircrewmembers of patrol aircraft	66-522
SV-2B Survival Vest, Installation of Extension Panel at Organizational Level	All SV-2B Survival Vests worn by aircrewmembers of patrol aircraft	66-522 Amend 1
SV-2B Survival Vest, Modification of Extension Panel Addition of P-3 and Rotary Wing Aircrew With Body Armor	All SV-2B Survival Vests worn by aircrewmembers of all P-3 series and Rotary Winged Aircraft	66-522 Amend 2
Notes: 1. See NAVAIR 13-1-6.7-1 for aircraft applications and authorized configurations of the vest and body armor.		

Table 6-5. Repairs/Fabrications/Installations

Description	Application	Paragraph
Attachment of heat shrink tubing to LPU-27 and LPU-35 Life Preservers during CMU-21/P22P-7(V) attachment.	All CMU-21/P22P-7(V)	6-16
Procurement and fitting of PRU-60/P22P-15 or PRU 60A/P22P-15 Soft Body Armor.	All SV-2B (CMU-21/P22P-7(V)) Survival Vests	6-24A
Procurement and fitting of the leather shoulder holster.	All SV-2B (CMU-21/P22P-7(V)) Survival Vests	6-24B
Installation of radio pocket to accommodate AN/PRC-112B, AN/PRC-149, and AN/PRQ-7 survival radios	All SV-2B (CMU-21/P22P-7(V))	6-45A
Installation of Extension Panel (Note 1)	SV-2B Survival Vests worn by patrol aircraft aircrewmembers	6-55
Fabrication of extension panel for SV-2B (CMU-21/P22P-7(V)) Survival Vest	All SV-2B (CMU-21/P22P-7(V)) vests	6-56
Fabrication and replacement of helicopter rescue (lift) strap	SV-2B Survival Vests worn by aircrewmembers of P-3 all series, C-130 all series, and rotary winged aircraft	6-57
Fabrication of the hands free hydration system/ optional equipment pocket for SV-2B/CMU-21/P22P-7(V)	All SV-2B (CMU-21/P22P-7(V)) Survival Vests	6-57A
Notes: 1. See NAVAIR 13-1-6.7-1 for aircraft applications and authorized configurations of the vest and body armor.		

5. Using black marking ink, blackout SV-2B identification and stencil new identification, CMU-21/P22P-7(V), directly below blacked-out area.

6-56. FABRICATION OF EXTENSION PANEL FOR SV-2B SURVIVAL VEST, CMU-21/P22P-7(V).

To fabricate extension panel proceed as follows:

NOTE

Extension panels supplied in kits from ACC 552 measure 10 1/2 inches installed length and width. Panels may be modified (lengthwise) to obtain best fit for aircrew-member. For ALSS pool use, modifying SV-2B/LPU-27/LPU-35 assemblies with extension panels in several different sizes (lengths) to accommodate aircrewmembers' needs is authorized. When issued together, the SV-2B and LPU-27/LPU-35 extension panel should be of matching lengths.

Materials Required

Quantity	Description	Reference Number
As Required	Thread, Nylon, Size E, Type II, Class A, Sage Green	V-T-295 NIIN 00-204-3884 or equivalent
As Required	Duck Cloth, Nylon, Type III, Class 3	MIL-C-7219 NIIN 01-173-4436
As Required	Ink, Waterproof, Black	NIIN 00-161-4229
As Required	Tape, Hook, Fastener, Black or Green, USAF 1565, Type I, Class 1	MIL-F-21840 NIIN 00-405-2267 or equivalent
As Required	Tape, Pile Fastener, Black or Green, USAF 1565, Type I, Class 1	MIL-F-21840 NIIN 00-405-2265 or equivalent
1	Slide Fastener, 11-Inch, Type IV, STY 8, Size MH, Separating Short Pull Tab	A-A-55634 NIIN 01-164-9539

NOTE

All stitching shall be Type 301 lockstitch, using Size E nylon thread, 8 to 10 stitches per inch, back or over-stitch one inch.

1. Cut 13 x 13-inch panel of nylon duck cloth.

a. Measure and mark a line 1 1/2 inches from all four edges.

b. Make two 1/2-inch folds to the 1 1/2-inch line.

c. Sew one row of stitches 3/8 inch from the outside edge of the fold around the perimeter.

2. The finished dimensions of the panel shall be 11 x 11 inches.

2a. Cut slide fastener to desired length.

NOTE

Check for compatibility of SV-2B slide fastener and slide fastener obtained from supply or salvaged for this modification.

Compatibility may require procurement of a second slide fastener.

3. Using the retainer pin side of separating slide fastener (side without the slider pull tab), sew slide fastener tape to one edge of the panel. Starting at the bottom of the retainer pin side of the slide fastener chain, sew up to the top of slide fastener chain with the top edge of the slide fastener tape turned under approximately 1 inch.

4. Cut two 2-inch square pieces of hook fastener tape. Sew one piece in the upper right hand corner of the panel and the other piece in the lower right hand corner (figure 6-26).

5. Position and sew fabricated extension panel to inside of vest aligned along back edge of attaching fabric of vest's slide fastener (figure 6-27).

6. Refer to paragraph 6-55, Installation of Extension Panel Steps I through F, for installation of new panel.

6-57. Fabrication and Replacement of Helicopter Rescue (Lift) Strap. The addition of the extension panel to the SV-2B Survival Vest requires replacement of the helicopter lift strap with one compatible with the increased circumference of the vest. Fabricate replacement strap as follows:

Materials Required

Quantity	Description	Reference Number
1	Ring, Parachute Harness, V-Type	MS70102-2 NIIN 00-113-7171
As Required	Webbing, Nylon, Type XXVII	MIL-W-4088 NIIN 00-530-1489
As Required	Thread, Nylon, Size E	V-T-295 NIIN 00-204-3884
As Required	Fastener Tape, Hook Class 2, 2-Inch Width	MIL-F-21482 NIIN 00-926-4931
As Required	Fastener Tape, Pile Class 2, 2-Inch Width	MIL-F-21482 NIIN 00-926-4930

1. Remove existing helicopter rescue (lift) strap from vest. Remove and retain hardware for reuse.

NOTE

- Rescue straps must have at least four inches of unused strap remaining when vest is donned with strap engaged and drawn tight.
2. Measure and searcut length of nylon webbing equal to length of strap removed, plus additional length required to accommodate installed extension panel.
3. Attach hardware to webbing in accordance with paragraph 6-37.
4. Attach webbing to vest in accordance with paragraph 6-37.

NOTE

- Stitching in following procedures shall be machine stitching using size E nylon thread, 8 to 10 stitches per inch. Back stitch exposed ends 1 inch.
5. Stitch 4 1/2-inch length of pile tape to webbing 2 1/2 inches plus 1/2 inch back from radio pocket.
6. Stitch 2-inch length of hook tape to underside of upper webbing. Start 1/2 inch from seared end of webbing.
7. Stitch 1-inch x 2-inch pile tape to webbing lengthwise so pile and hook tape mate when extension panel is used and so pile does not interfere with hardware when extension panel is not used.

8. Trim off selvage edge of fastener tapes after sewing to webbing.

6-57A. FABRICATION OF THE HANDS FREE HYDRATION SYSTEM/OPTIONAL EQUIPMENT POCKET FOR SV-2B SURVIVAL VEST, CMU-21/P22P7(V) (Figure 6-25A)

Materials Required

Quantity	Description	Reference Number
As Required	Cloth, Nylon Duck, Type III, CL3	MIL-C-7219 NIIN 01-173-4436
1	Grommet, Metallic	MS-20230B5 NIIN 00-231-6592
12 Inches	Webbing, Nylon, Type IX	MIL-W-4088 NIIN 00-261-8846
As Required	Slide Fastener	A-A-55634 NIIN 00-252-5419
-or-		
As Required	Slide Fastener	A-A-55634 NIIN 00-255-1172
As Required	Top Stop	A-A-55634 NIIN 00-276-4939
As Required	Fastener Tape, Pile, 1-Inch	MIL-F-21840 NIIN 00-106-5974
As Required	Fastener Tape, Hook, 1-Inch	MIL-F-21840 NIIN 00-106-5973
As Required	Thread, Nylon, Size E	V-T-295 NIIN 00-204-3884

NOTE

- All stitching shall be in accordance with ASTM-D-6193, Type 301 lockstitch, 6 to 8 stitches per inch. Backstitch or over-stitch a minimum of 1/2 inch. All nylon fabric and nylon webbing shall be sear cut.
1. Fabrication of pocket:
- a. Cut one piece of nylon duck measuring 6 x 30 inches and one piece measuring 7 x 31 inches. The smaller piece will be piece “A” and the larger piece will be piece “B”. Center “A” on top of “B” ensuring extra 1/2 inch of material from “B” protrudes evenly beneath all sides of “A”. Single fold protruding 1/2 inch of “B” up and over edges of “A” and secure with one row of stitching.
- b. Sew hook fastener tape across the 6-inch top edge of piece “A”. This will be considered the top panel.

c. Turn panel over. Piece “B” should be facing up. Measure 2 inches up from opposite end with hook fastener tape and sew pile fastener tape onto piece “B”.

d. Measure 4 inches down from top of panel and punch a 5/8-inch hole centered at the 4-inch line.

e. Install a no. 5 grommet in the hole made in step d.

2. Fabrication of slide fastener:

NOTE

Not all slide fasteners are the same. Ensure that the slider assembly engages the existing slider assembly on the vest.

a. Check new slide fastener or slide fastener salvaged from old SV-2B for compatibility with en-

trance slide fastener on SV-2B. If the SV-2B entrance slide fastener is not compatible with the new or salvaged slide fastener, a different slide fastener that is compatible with the entrance slide fastener on the SV-2B will have to be used.

b. With SV-2B entrance slide fastener closed, measure length of slide fastener from bottom to top stops.

c. Close and lay out slide fastener to be installed on pocket.

d. Mark overall length to the same measurement as the entrance slide fastener on the SV-2B, add an additional inch and mark. Cut off excess chain and discard.

e. Remove the existing teeth from the cut edge and down 1 inch.

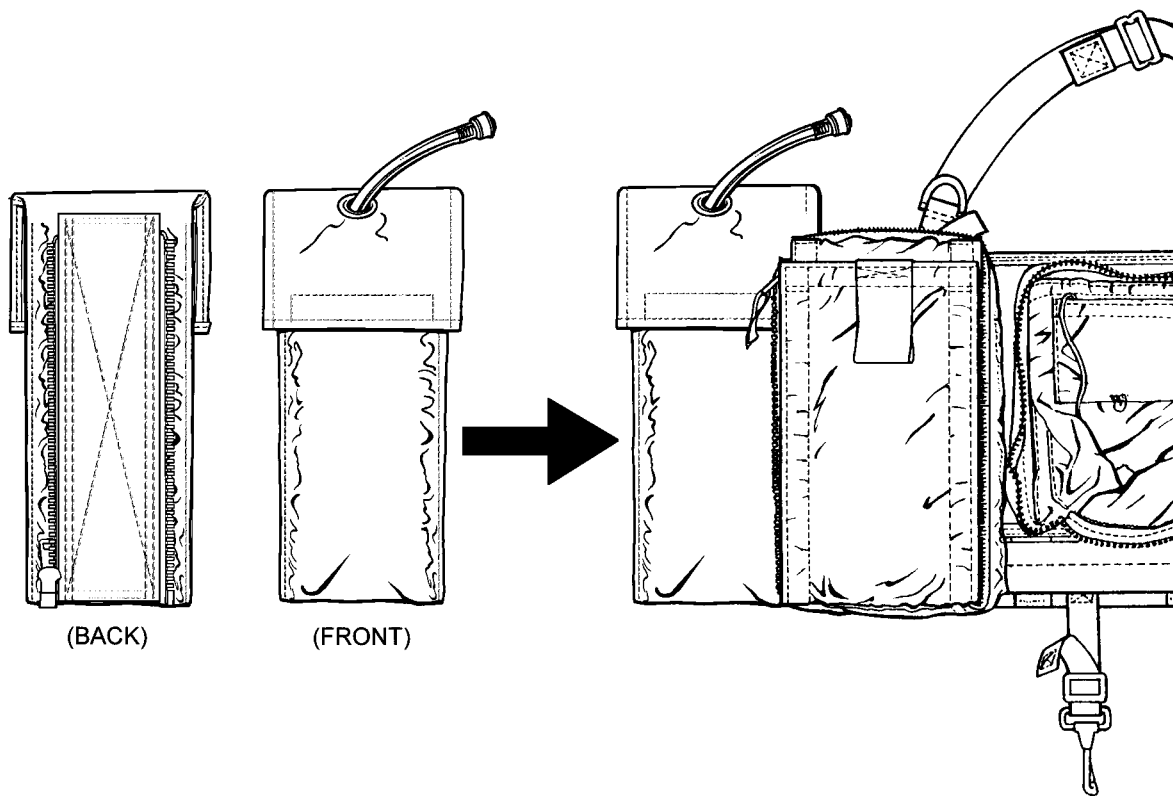


Figure 6-25A. Hydration/Optional Equipment Pocket

6-25a

f. Install new top stops and ensure finished zipper is same overall length as the SV-2B entrance slide fastener.

3. Fabrication of SV-2B Mounting Panel:

a. Lay out 12-inch piece of nylon webbing. Fabricator shall determine right and left-hand side as follows:

b. Lay slide fastener chain on right and left hand sides of 12-inch nylon webbing, ensuring side with slider assembly is on the left-hand side of the webbing, with the lock block even with cut edge of webbing.

c. Secure slide fastener to webbing with two rows of stitching.

d. In the same manner, attach other side of slide fastener assembly to opposite side of 12-inch piece of nylon webbing.

e. Fit check the mounting panel to the entrance slide fastener to ensure proper slide fastener operation.

f. After fit check, remove from the SV-2B.

4. Attachment of pocket to SV-2B Survival Vest Mounting Panel:

a. Lay panel on sewing machine lengthwise with piece "B" facing up and no. 5 grommet facing away from the fabricator. Centered lengthwise, lay the 12-inch piece of nylon webbing with slider assembly to the left, with the slider assembly pull tab toward the nylon fabric (the panel could be installed upside down if the pull slider is on the wrong side) and installed 6 inches down from the end of the panel closest to the grommet. Secure the nylon webbing to the nylon panel with cross boxstitch, ensuring the outer row of stitches are sewn 1/8-inch from the outside edge of the webbing.

5. Final assembly of pocket:

a. Fold 6 x 30 inches panel to form a pouch assembly. Fold shall be formed by folding the end

with the pile tape up to the top edge of the 12-inch nylon webbing mounting panel (with pile tape toward the slide fastener panel), piece "A" on the outside, with piece "B" on the inside. Secure both right and left sides with a single row of stitching.

b. Turn pouch assembly inside out. Piece "B" will now be facing outward. Press pouch flat and flat stitch 1/8 inch from outside edge, along right and left side of pouch.

c. Install water bladder assembly. Drinking hose will exit the pouch through the no. 5 grommet. The portion of the hose that extends out of the pouch will be secured by tucking it under the water pouch retention flap. This modification allows for a maximum 50 oz. hydration system or for optional survival items.

6. Modification of SV-2B Survival Vest to accommodate pocket:

a. The pocket attaches to the SV-2B Survival Vest by being zipped in front of the assembly using the SV-2B's entrance slide fastener. This may alter the fit of the SV-2B assembly due to the 4-inch width of the mounting panel. In order to properly re-fit the aircrewmember's vest, refer to procedures found in this manual.

WARNING

The primary use for this pocket is intended for up to a 50 oz. hydration system, however, it may be utilized for storage of any portion of the allowed 5 lbs. of optional survival equipment, at the aircrewmember's discretion. Prior to flight, the aircrewmember must check to see that the modification does not impede flight controls or affect the proper fit of the vest. If so, do not use the pocket and incorporate optional items elsewhere on the vest.

b. Document maintenance in accordance with OPNAVINST 4790 Series.

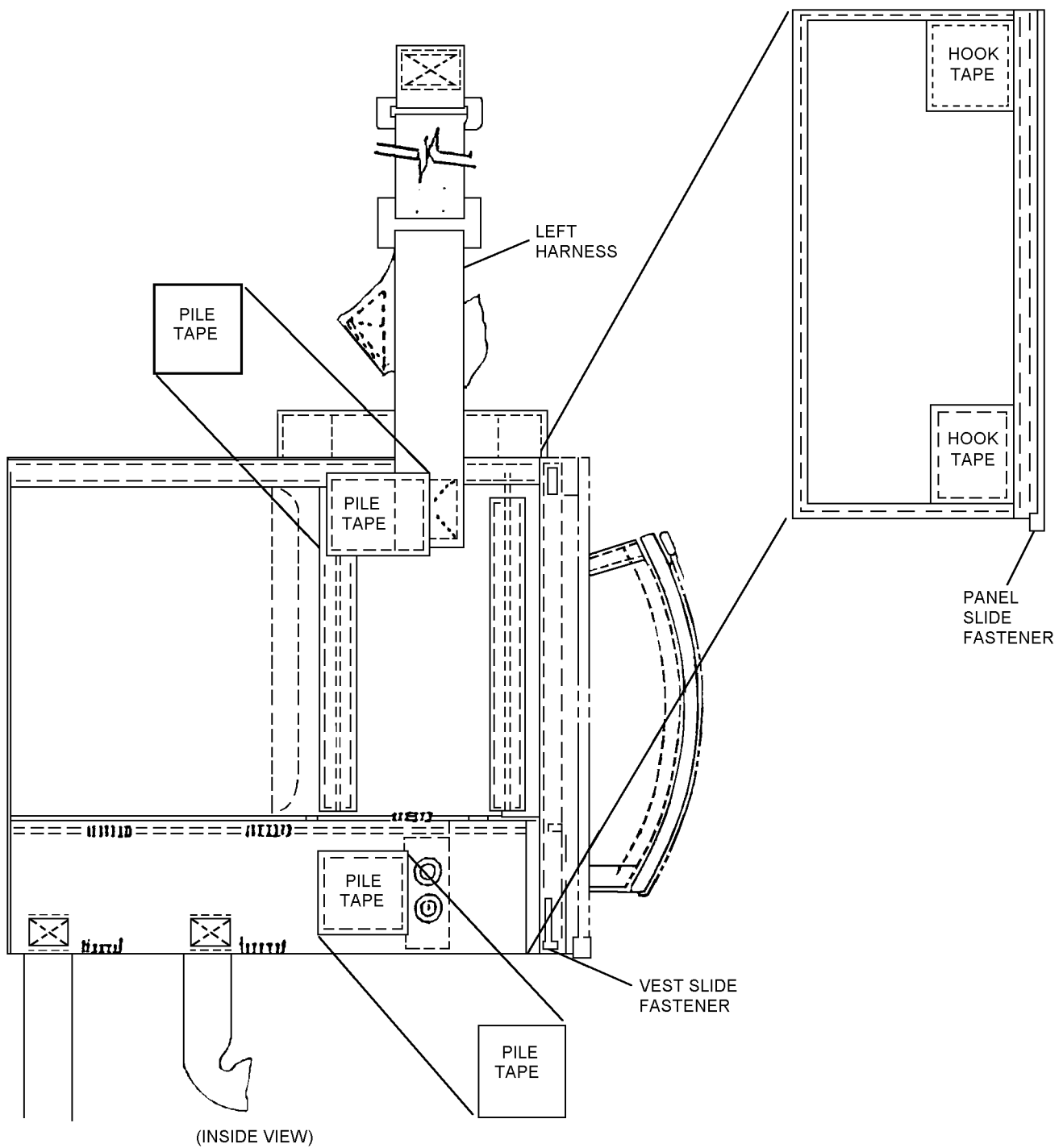


Figure 6-26. SV-2B Before ACC 522

6-26

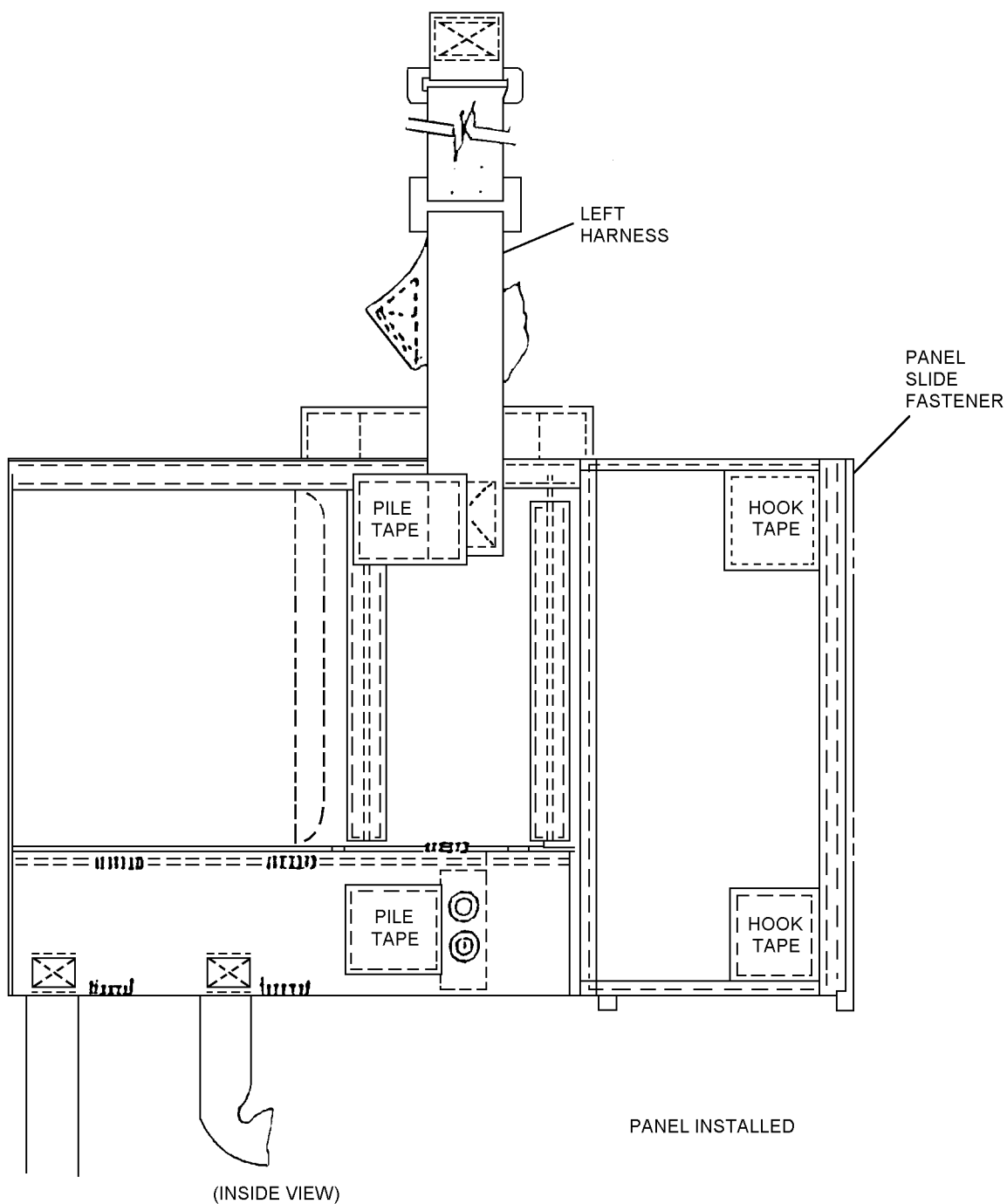


Figure 6-27. SV-2B After ACC 522

Section 6-3. CMU-23A/P Survival Vest, P/N 1774AS300-1

6-58. GENERAL.

6-59. The CMU-23A/P Survival Vest is an SV-2B Survival Vest or CMU-23/P Survival Vest which has been modified in accordance with ACC 616 (as amended) for compatibility with the man-mounted pusher fan of the A/P23P-14A(V) CBR Protective Assembly (Upgrade) and the A/P22P-14(V)1 Respirator Assembly. Survival vests modified by ACC 616, and redesignated CMU-23A/P are dual purpose vests. For routine missions where there is no potential for CBR exposure, the vest can be configured like a non-CBR configuration in SV-2B Survival Vest (figure 6-28). With its interchangeable pocket configuration, however, the CMU-23A/P vest can be quickly reconfigured for missions requiring CBR protection.

6-60. CONFIGURATION.

6-61. When the CMU-23A/P vest is in the CBR configuration (figure 6-29), the SRU-36/P Helicopter Emergency Egress Device (HEED), Survival Knife, and MK-79 Illumination Signal Kit are stowed in individual pockets which are then attached to the front of the vest by means of directional snap fasteners, and hook and pile tape. The pusher fan and battery pack, enclosed in their pocket assembly, are secured to the vest by a receiving bracket which provides easy donning and doffing of the respirator assembly.

6-62. The CMU-23A/P Survival Vest, P/N 1774AS201-1, used by aircrews of USN/USMC helicopter, E-2C, and C-2A aircraft shall be modified by ACC 639 to accommodate the SRU-40/P Helicopter Aircrew Breathing Device (HABD). After modification the modified CMU-23A/P Survival Vest shall be reidentified as CMU-23A/P, P/N 1774AS300-101.

6-63. APPLICATION.

6-64. The CMU-23A/P Survival Vest is intended for use by USMC helicopter aircrews operating CH-46D/E, CH-53D/E, MH-53E, and UH-1N helicopters who are equipped with the A/P23P-14A(V) Respirator Assembly and all other USN/USMC rotary wing aircrews who are equipped with the A/P22P-14(V)1 Respirator Assembly.

6-65. MODIFICATIONS.

6-66. The CMU-23A/P Survival Vest shall be updated by comparing the configuration of the assembly with the directives listed in table 6-6. Refer to Section 6-1

maintenance procedures required to maintain serviceability.

6-67. MAINTENANCE.

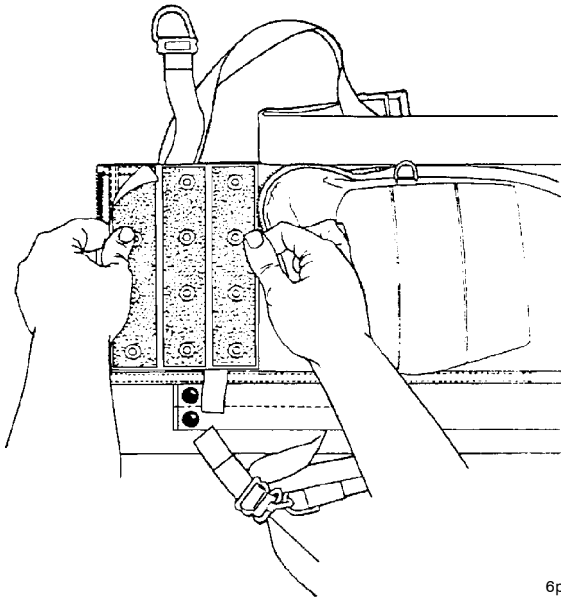
6-68. Refer to paragraph 6-21 for inspection, cleaning, repair and, maintenance requirements applicable to the CMU-23A/P Survival Vest.

6-69. INSTALLATION OF CMU-23A/P CONFIGURATION. To modify SV-2B and CMU-23/P Survival Vests to CMU-23A/P configuration proceed as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Thread, Nylon, Sage Green, Size FF	V-T-295 NIIN 00-204-3787 (CAGE 81349)
1	Vest Snap Fastener Panel	1774AS407-1 (CAGE 30003)
1	Pistol Snap Fastener Panel	1774AS406-1 (CAGE 30003)
1	Pusher Fan and Battery Pocket Assembly	1774AS401-1 (CAGE 30003)
1	Flare Pocket Assembly	1774AS403-1 (CAGE 30003)
1	HEED Pocket Assembly	1774AS404-1 (CAGE 30003)
1	Survival Knife Pocket Assembly	1774AS405-1 (CAGE 30003)
1	Receiving Bracket Assembly	1774AS408-1 (CAGE 30003)
1	HABD Bottle Pocket Assembly	1774AS412-1 (CAGE 30003)
1	HABD Hose Pocket Assembly	1774AS413-1 (CAGE 30003)
1	HABD Hose Pistol Pocket (Non-CBR Mode) Assembly	1774AS414-1 (CAGE 30003)

Note: Components for initial modification will be included with upgraded respirators as they are returned to fleet activities and are not available through normal supply channels. Components required for compliance with ACC 616 following initial modifications shall be requisitioned through normal supply channels using stock numbers that will be assigned at a future date and announced via separate correspondence.

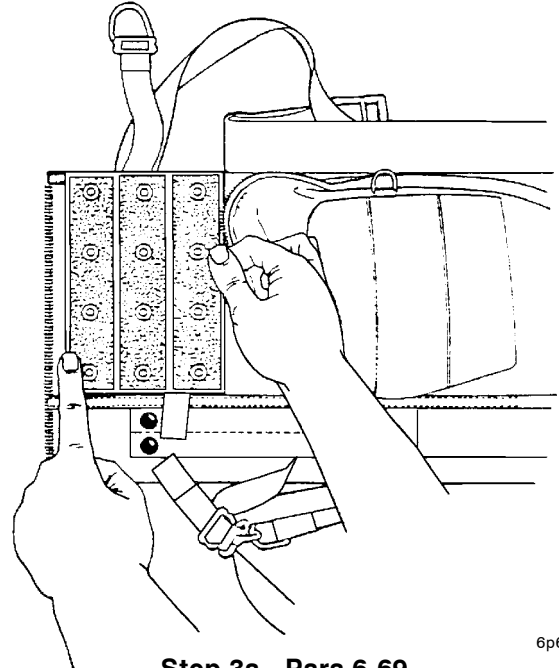
1. Prepare vest for modification.
 - a. Remove equipment from pistol/HEED pocket.
 - b. (CMU-23/P only) Remove and discard velcro and snap fasteners used to secure tactical ventilator hose.
 - c. (CMU-23/P only) Remove four snap fasteners and webbing adjacent to slide fastener.
 - d. Remove approximately six inches of stitching securing V-ring end of hoisting strap to vest.
2. Remove pistol/HEED pocket from vest by carefully cutting stitching attaching it to vest and retain pocket for further modification.
3. Position Vest Snap Fastener Panel (with studs and pile tape) so 5 1/2-inch side is directly atop and even with the bound top edge of vest.



Step 3 - Para 6-69

6p69s3

- a. Position 7 1/2-inch side so it is atop and even with edge of vest fabric in which slide fastener is installed.



Step 3a - Para 6-69

6p69s3a

- b. Sew in place with one row of stitching 1/8 inch from bound edge of panel, around perimeter of panel using 8 to 10 stitches per inch.

Table 6-6. CMU-23A/P Directives

Description of Modification	Application	Modification Code
Modification of CMU-23A/P, P/N 1774AS201-1, to accommodate the SRU-40/P Helicopter Aircrew Breathing Device (HABD). After modification reidentify as CMU-23A/P, P/N 1774AS300-101	All CMU-23A/P Survival Vests used in USN/USMC helicopter, E-2C, and C-2A aircraft.	66-639

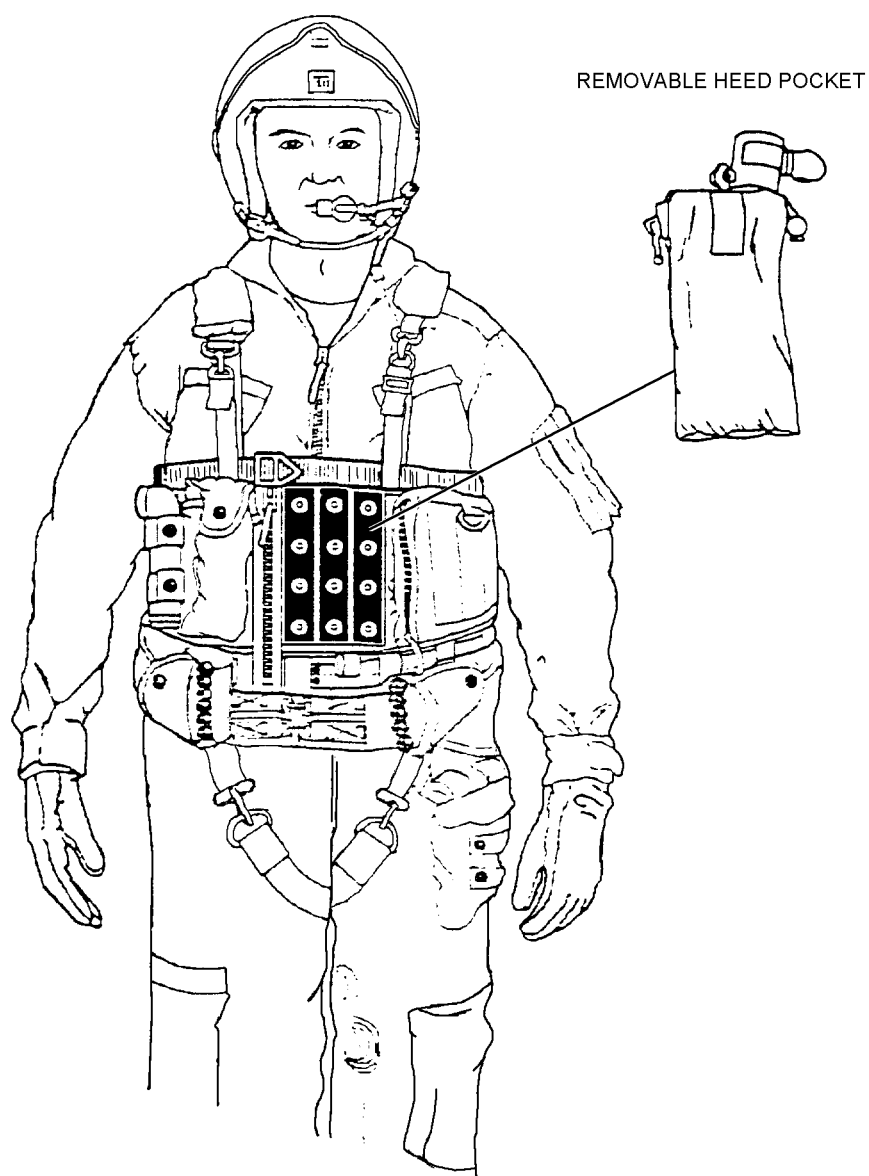


Figure 6-28. CMU-23A/P Survival Vest (Normal Configuration)

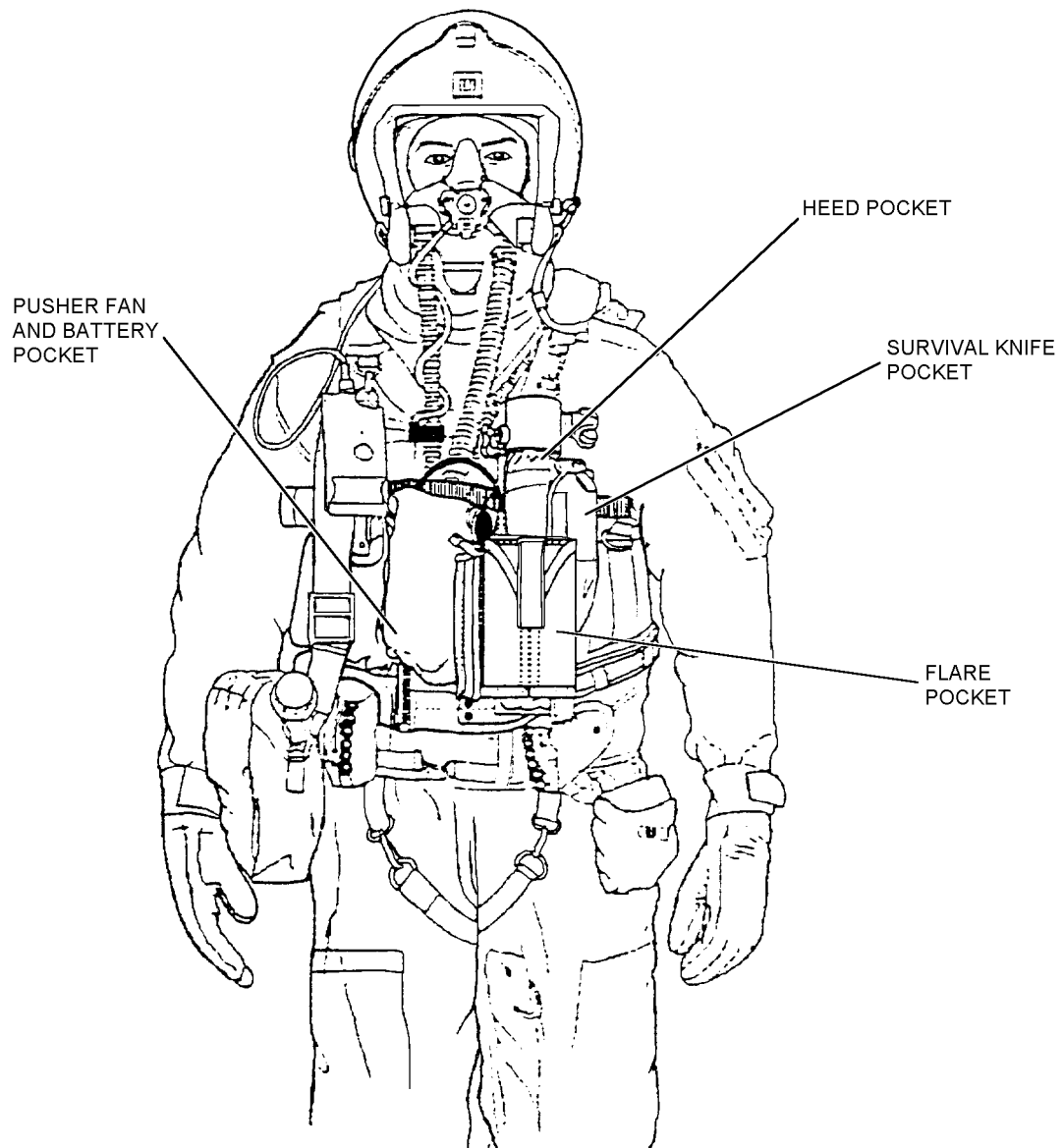
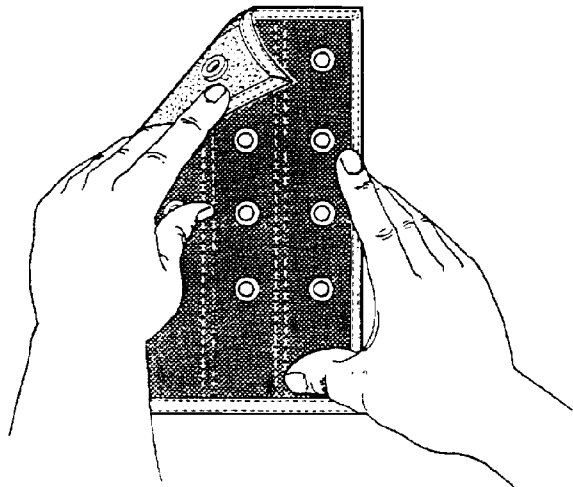


Figure 6-29. CMU-23A/P Survival Vest (CBR Configuration)

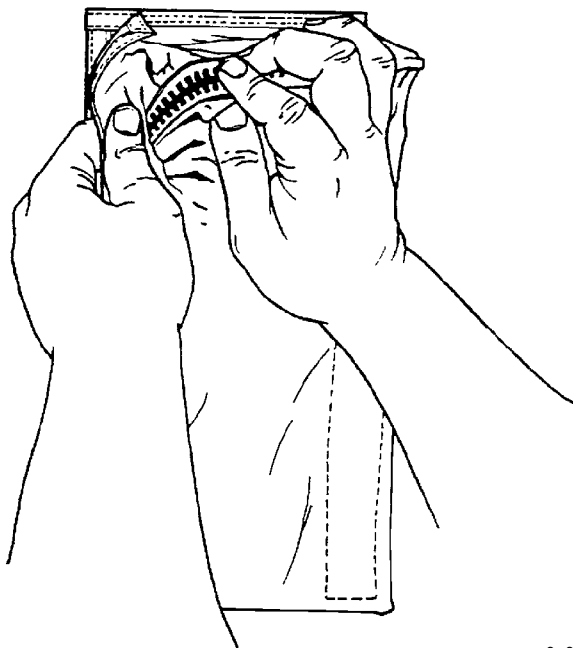
4. Lay Pistol Snap Fastener Panel, hook tape/sock-et side down.



Step 4 - Para 6-69

6p69s4

- a. Position rear face of pistol/HEED pocket over snap panel so edges align.



Step 4a - Para 6-69

6p69s4a

- b. Sew pocket to panel around perimeters using one row of stitching 1/8 inch from edge at 8 to 10 stitches per inch.

5. Reinstall V-ring end of hoisting strap to vest in accordance with [paragraph 6-37](#).

6. Reattach pistol/HEED pocket to vest using velcro and snap fasteners.

6-70. CMU-23A/P SURVIVAL VEST CBR CONFIGURATION. To configure the CMU-23A/P vest for use on missions into CBR threat environments proceed as follows:



Snap fasteners used to attach pockets to the vest are unidirectional Pull-the-Dot type which are used to prevent inadvertent separation. Resetting the snap fasteners may be difficult, use care to avoid damaging the snaps during attachment and removal.

1. Unsnap and remove pistol/HEED pocket.
2. Remove HEED from pistol/HEED pocket and reinstall it in HEED Pocket Assembly securing it to D-ring inside the pocket.
3. Remove MK-79 Illumination Signal Kit from pistol/HEED pocket and reinstall it in Flare Pocket Assembly securing the retaining lanyards to grommet install in top flap of pocket using bowline knots.
4. Remove survival knife from pistol/HEED pocket and reinstall it in Survival Knife Pocket Assembly securing retaining lanyard to grommet near top of pocket using bowline knot.
5. Attach Survival Knife Pocket to side of HEED Pocket and the Flare Pocket to the front of HEED Pocket using snap fasteners and hook and pile tape.
6. Lay CMU-23A/P Survival Vest on flat surface with snap fastener panel facing up and on left. See [figure 6-30](#).

- a. Attach Receiving Bracket Assembly to six snap fasteners in upper left quadrant of panel.

- b. Attach HEED Pocket Assembly (with attached knife and flare pockets) to four vertically aligned snaps on right side of panel.

7. Enclose pusher fan and manifold of the respirator assembly in the Pusher Fan/Battery Pocket Assembly.

- a. Ensure pusher fan inlet is not obstructed.
- b. Route power cord so it exits pocket near pusher fan inlet.
- c. Ensure slide fastener is fully closed.

8. Insert power cord in battery pack 3-pin receptacle and stow battery pack in pocket so power cord exits through battery pocket opening.

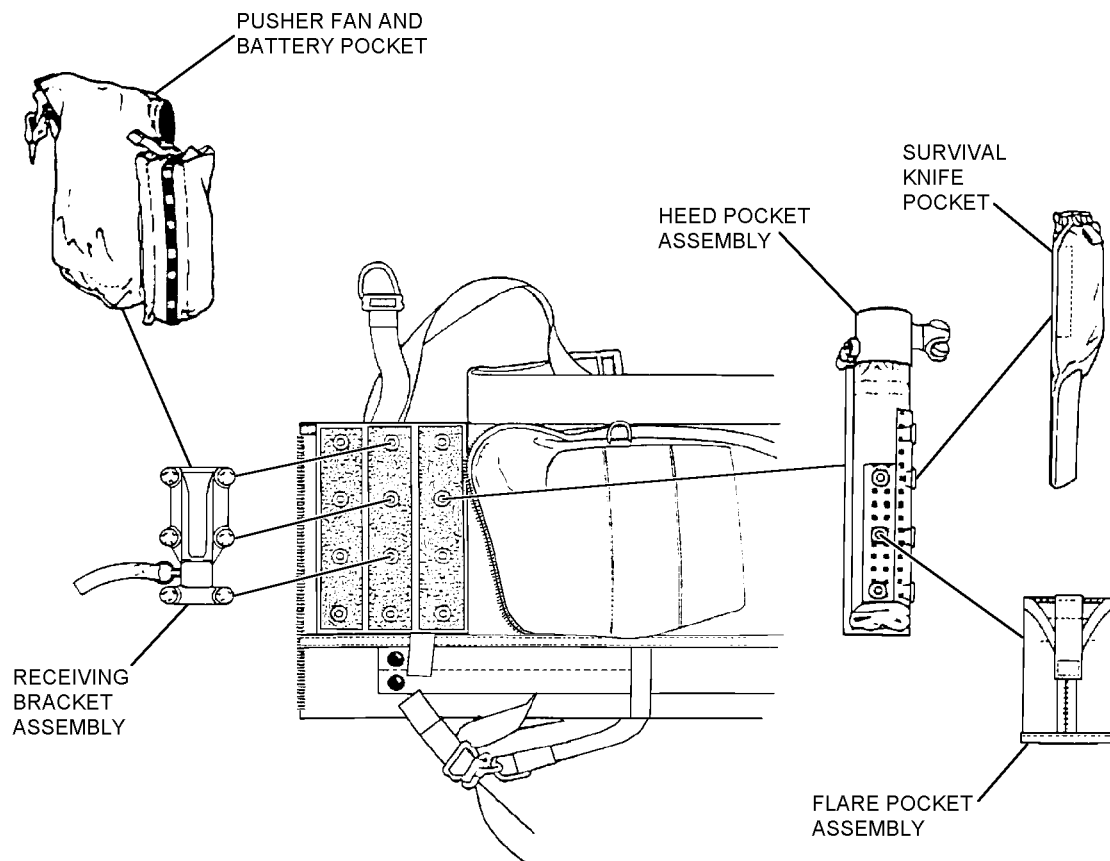


Figure 6-30. Attachment of CMU-23A/P Survival Vest CBR Components

6-71. FABRICATION OF HELICOPTER AIR-CREW BREATHING DEVICE, SRU-40/P (HABD) POCKET ASSEMBLY. The HABD pocket assembly consists of a Bottle Pocket and a CBR Hose Pocket or Non-CBR Hose Pocket to be fabricated as follows:

Materials Required		
Quantity	Description	Reference Number
As Required	Cloth, Nylon Duck	MIL-C-7219, NIIN 01-173-4436
As Required	Fastener Tape, Hook, 1-Inch	MIL-F-21840, NIIN 00-106-5973
As Required	Fastener Tape, Pile, 1-Inch	MIL-F-21840, NIIN 00-405-2263
As Required	Fastener Tape, Hook, 2-Inch	MIL-F-21840, NIIN 00-450-9837
As Required	Fastener Tape, Pile, 2-Inch	MIL-F-21840, NIIN 00-405-2265
As Required	Webbing, Textile, 1-Inch	MIL-W-5664D, NIIN 00-263-3600
As Required	Webbing, Textile, 1-Inch	MIL-T-5038G, NIIN 00-261-8579
As Required	Tape, Textile, 1-Inch	MIL-T-5038G, NIIN 00-753-6144
As Required	Thread, Nylon, Size E, Sage Green	V-T-295, NIIN 00-204-3884
3	Cap, Snap Fastener	MS27983-1, NIIN 00-891-9073
3	Socket, Snap Fastener	MS27983-2, NIIN 00-945-2577
6	Stud, Snap Fastener	MS27983-3, NIIN 00-276-4908
6	Post, Snap Fastener	MS27983-4, NIIN 00-276-4978
3	Grommet, Size 00	MS20230B20, NIIN 00-291-0302
1	Strap, Tie Down	MIL-S-23190, NIIN 00-111-3208
1	Bead, Inflation Handle (Note)	975AS122-1
1	Breathing Device, Helicopter Aircrew, SRU-40/P	1586AS301-1

Note: Obtain bead for inflation handle from Beaded Handle Assy (P/N 975AS121-11, NIIN 01-120-4752, or salvage from LPU-21 or LPU-23 beaded handles.

NOTE

Sear all cut edges of nylon webbing and tape to prevent fraying (recommend use of Cutter, Nylon Webbing, NIIN 00-956-008). Do not form sharp edges. Unless otherwise specified all stitching shall be Type 301, 8 to 10 stitches per inch, with minimum 3/4-inch back or over stitch. All stitching shall be 1/8 inch from edge unless otherwise specified. All binding tape shall be sewn using two rows of stitching 1/8 inch apart. Use china marker or equivalent for all markings.

6-72. Fabrication of Bottle Pocket Panel. Refer to figure 6-31 and proceed as follows:

1. Cut a piece of nylon duck cloth 4 3/4 X 8 inches and bind the 8-inch edges with 1-inch binding tape.
2. Cut two 4 3/4-inch lengths of 2-inch hook tape.
3. Orient duck cloth so 8-inch edges are at top and bottom.
4. Measure and mark bottom edge 1 3/4 inches from lower left-hand corner.
5. Measure and mark top edge 1 3/4 inches from top left-hand corner.
6. Draw a vertical line connecting the two 1 3/4-inch positions.
7. Place the two pieces of hook tape with 4 3/4-inch edges side by side along the right side of the vertical line.
8. Sew all edges of both pieces of hook tape in place.
9. Measuring from the top left-hand corner mark portions at 2 3/4 and 4 3/4 inches along top edge.
10. Measuring from the lower left-hand corner mark positions at 2 3/4 and 4 3/4 inches along bottom edge.
11. Draw vertical lines connecting the 2 3/4-inch portions and the 4 3/4-inch positions.

12. On the vertical line between the 2 3/4-inch positions, measuring from the top, mark portions at 1/2 inch, 2 1/2 inches, and 4 1/2 inches.

13. On the vertical line between the 4-3/4-inch positions, measuring from the top, mark positions at 1/4 inch, 2-1/4 inches, and 4-1/4 inches.

14. Punch holes at marked positions.

15. Set posts and studs in the holes with studs showing on the hook tape side.

16. From the top edge, between the two lengths of installed hook tape, measure down 3/8 inch and mark.

17. Punch a hole at the mark and set a grommet in the hole.

18. Measuring from the top left-hand corner mark a position on the top edge at 1/2 inch.

19. Measuring from the bottom left-hand corner mark a position on the bottom edge at 1/2 inch.

20. Draw a vertical connecting the two 1/2-inch positions.

21. Fold the bottle panel in half so the 4 3/4-inch seared edges meet and the hook tape is showing.

22. Stagger the placement of the top and bottom edges to be side by side rather than stacked to reduce the number of layers.

23. Sew a row of stitches along the line connecting the 1/2-inch marks.

6-73. Fabrication of the HABD Hose Pocket Panel For Non-CBR Configuration. Refer to [figure 6-32](#) and proceed as follows:

1. Cut a piece of nylon duck cloth measuring 10 X 6 1/2 inches.

2. Orient the cloth so the 6 1/2-inch edges are at the top and bottom.

3. Measure and mark the right-hand edge 1 1/4 inches down from the top right-hand corner.

4. Draw a cutline from the top left-hand corner to the 1 1/4-inch mark on the right-hand edge and cut the fabric along the line.

5. Double fold the top and bottom edges 3/8 inch to the back side of the fabric.

6. Stitch a hemline 1/8 inch from the outer edge and another 1/4 inch from the edge.

7. Single fold the side edges 3/8 inch to the back side of the fabric and sew edges in place 1/8 inch from folded edge.

6-74. Attaching HABD Hose Pocket Panel to Pistol Pocket. Refer to [figure 6-32](#) and proceed as follows:

1. Unfasten the flare pocket on the pistol pocket.

2. On the face of the flare pocket flap, measure and mark the left edge 1 inch down from the top left-hand corner.

3. On the face of the flare pocket flap, measure and mark the right edge 2 1/4 inches down from the top right-hand corner.

4. Position the hose pocket panel on the outside face of the flare pocket flap so the top left-hand corner of the panel is aligned at the 1-inch mark and the top right-hand corner is aligned with the 2 1/4-inch mark.

5. Sew the left and right sides of the panel in place on the flare pocket flap using one row of stitches 1/8 inch from the outer edge and another at 1/4 inch from the outer edge. Reinforce with a minimum backstitch of 1 inch.

6-75. Fabrication of HABD Bottle Neck Strap. Refer to [figure 6-31](#) and proceed as follows:

1. Cut a 12 1/2-inch length of 1-inch webbing. Measure and mark 2 inches from one end.

2. Turn webbing over and, measuring from the same end as in [step 1](#), mark webbing at 4 inches, 6 1/2 inches, and 9 1/2 inches.

3. Cut a 2-inch length of 1-inch pile tape and sew on webbing between the end and the 2-inch mark measured in [step 1](#).

4. Cut a 3-inch length of 1-inch hook tape and sew in place on webbing between 6 1/2 inch and 9 1/2-inch marks measured in [step 2](#).

5. On hook tape end of webbing, slide a bead onto the webbing until it touches the hook tape.

NAVAIR 13-1-6.7-2

6. Make 3/8-inch double fold, end over end, on end of webbing and sew the fold together using three rows of stitches placed side by side.

7. Fold webbing at the 4-inch mark so hook tape is on the inside and pile tape is outside.

6-76. Setting Grommet on Pistol Pocket. Refer to figure 6-32 and proceed as follows:

1. Unfasten the upper flap of the flare pocket.
2. Turn pocket over and lay it flat so the pile tape is facing up and is at bottom.
3. Measure and mark the right-hand edge in two places; 1 1/4 inches and 1 3/4 inches up from the bottom right-hand corner.
4. Measure and mark grommet locations 1 1/2 inches to the left of the 1 1/4 and 1 3/4-inch marks made in step 3.
5. Punch holes at marked locations and set grommets.

6-77. FABRICATION OF HABD HOSE POCKET FOR CBR CONFIGURATION. The HABD hose pocket consists of two major parts, the back panel and the front panel.

6-78. Fabrication of Back Panel of HABD Hose Pocket. Refer to figure 6-33 and proceed as follows:

1. Measure and cut a piece of nylon duck cloth 16 inches X 4 1/2-inches.
2. Orient the cloth so the 4 1/2-inch edges are at the top and bottom.
3. Measure and mark the right-hand edge of the cloth 1 1/4 inches up from the lower right-hand corner.
4. Measure and cut 6 1/2-inch length of 2-inch pile tape.
 - a. With pile facing up and the length of the pile tape positioned with its right edge aligned with the right edge of the cloth, place lower right-hand corner of pile tape at the 1 1/4-inch mark made in step 3.
 - b. Sew the left edge of the pile tape in place.

- c. Sew the top and bottom of the pile tape in place to within 3/4 inch of the right edge of the cloth.

5. From the lower left-hand corner of the sewn pile tape, measure up 2 1/2 inches and mark the position on the left edge of the tape.

6. Measure and cut a 5 1/4-inch length of 2-inch pile tape.

- a. Place pile tape next to the sewn edge of the pile tape attached in step 4b aligning the top edges and ensuring the lower right-hand corner of the tape is positioned at the 2 1/2-inch mark made in step 5.

- b. Sew all edges of the 5 1/4-inch pile tape in place.

- c. Measure and mark a line down the center of the 5 1/4-inch length of pile tape.

- d. Measuring up the center line from the bottom edge of the 5 1/4-inch tape, mark positions at 3/4 inch, 2 3/4 inches, and 4 3/4 inches.

7. Fold the panel in half leaving the 4 1/2-inch folded edge as the top.

- a. Bind the bottom edge of the panel with 1-inch textile tape.

- b. Measure and mark the right and left edges 1 inch down from the folded edge of the top.

- c. Draw a sew line connecting the 1-inch marks.

- d. Sew along the sew line to 3/4 inch from the right edge creating a 1-inch wide channel.

8. Measure and cut a 3-inch length of 1-inch elastic and slide the elastic through the channel created in step 7d.

9. Align the right end of the elastic with the right edge of the channel.

10. Fold back the 6 1/2-inch pile tape installed in steps 4 through 4c and sew the right end of the elastic to the pile tape (through the elastic and the nylon fabric, not through the pile tape).

6-79. Fabrication of Front Panel of HABD Hose Pocket. Refer to figure 6-33 and proceed as follows:

1. Measure and cut a piece of nylon duck cloth 15 inches X 4 1/2 inches.

2. Orient the cloth so the 4 1/2-inch edges are at the top and bottom.

3. Fold the cloth in half so the 4 1/2-inch folded edge is now at the top.

4. Bind the two bottom edges with 1-inch textile tape.

5. Measure and mark right and left edges 1 inch down from the top folded edge.

a. Draw a sew line connecting the 1-inch marks.

b. Sew along the sew line creating a 1-inch channel.

6. Measure and cut a 3-inch length of 1-inch elastic and slide the elastic into the channel.

7. Align one end of the elastic with one of the edges of the channel and sew the edges together.

6-80. Assembly of the HABD Hose Pocket. Refer to [figure 6-33](#) and proceed as follows:

1. Place the back panel on top of the front panel with the pile tape side of the back panel facing up and the sewn elastic edges of each panel aligned, one on top of the other.

2. Align the top edges, top corners, and the left and right edges of the panels.

3. Fold back the 6 1/2-inch pile tape and bind the right edges of the panels together with 1-inch textile tape.

4. Sew right edge of 6 1/2-inch pile tape in place over binding tape.

5. Stretch remaining edge of elastic of back panel through the channel to opposite edge and sew in place.

6. Punch holes through back panel only at 3/4-inch, 2 3/4-inch, and 4 3/4-inch marks made on center line of pile tape in [step 6d, paragraph 6-78](#).

a. Set caps and sockets in holes so sockets show on the pile tape side.

b. The top two sockets shall have their flat locking edge on top and the lowest socket shall have

the flat locking edge toward the bottom (see [figure 6-33](#)).

7. Stretch elastic of the front panel through channel to opposite edge and sew remaining edge in place.

8. Bind left edges of panels together using 1-inch textile tape.

6-81. Attachment of HABD Bottle Pocket. Refer to [figure 6-31](#) and proceed as follows:

1. Locate the point between the attachment point of the snap panel to the vest and the bottom edge of the side fastener tape of the general pocket.

2. Draw a line outlining where the right edge of the snap panel lays on the vest.

3. Carefully remove the stitching from the right edge of the snap panel that attaches the panel to the vest.

4. Measure and mark a line 1/2 inch to the left of the snap panel edge line.

5. Place the bottle pocket on the vest with the bottom of the bottle pocket just above the edge of the lower binding on the vest.

6. Align the 4 3/4-inch seared edges with the 1/2-inch line on the vest and the 1/2-inch marks on the pocket with the line from the snap panel edge.

7. Sew the bottle pocket in place with two rows of stitches side by side beginning 1/4 inch from the seared edge of the 4 3/4-inch side. Be careful not to sew beyond the stitching of the bottle pocket.

6-82. Attachment of the HABD Bottle Neck Strap. Refer to [figure 6-31](#) and proceed as follows:

1. Locate the binding on the top edge of the vest.

2. Measure and mark 1 inch to the left of the snap panel edge line at the bottom edge of the binding.

3. Orient the bottle neck strap so the folded edge is on the left edge and the bead is on the right.

4. Place the top corner of the fold at the 1-inch mark.

5. Sew strap in place with two rows of stitches side by side 1-inch from the folded edge.

NAVAIR 13-1-6.7-2

6. Resew the snap panel onto the vest using two rows of stitches along the original stitch lines.

6-83. Attaching Hook Tape to CBR Pusher Fan Pocket When Using the HABD Bottle. Refer to figure 6-34 and proceed as follows:

1. Measure and cut a 5-inch length of 2-inch hook tape.
2. Locate top left corner of the right side panel of the CBR pusher fan battery pocket.
3. Place the hook tape on the battery pocket aligning the 2-inch edge of the hook tape with the top edge of the pocket and the left edge of the pocket.
4. Sew hook tape in place.

6-84. REMOVAL AND DISPOSITION OF THE SRU-36/P HELICOPTER EMERGENCY EGRESS DEVICE (HEED). Prior to beginning the modification in accordance with ACC 639 the SRU-36/P and its supporting modifications must be removed from the vest as follows:

1. Remove the SRU-36/P from the pistol pocket and return it to supply in F condition.
2. Remove stitching securing the SRU-36/P tether inside the pistol pocket; remove and discard the tether.
3. If vest is configured with the SRU-36/P pocket assembly, P/N 1774AS304-1, unsnap pocket assembly from vest and return it to supply in F condition.

6-85. STOWING THE SRU-40/P HELICOPTER AIRCREW BREATHING DEVICE (HABD) IN RE-

CONFIGURED SURVIVAL VEST. Ensure the SRU-40/P HABD has been inspected in accordance with NAVAIR 13-1-6.5 and proceed as follows:

1. Check to ensure HABD is in RFI condition.
2. Place HABD in new pocket and secure bottle neck strap around bottle neck.
3. Route regulator hose down through top of hose pocket in a single U-shaped loop, leaving regulator out.

6-86. Stowing Non-CBR Configuration.

1. Pass a plastic tie wrap through the center of the mouthpiece cover, around the top and through both grommets.
2. Secure tie wrap so it is tight around the cover, but not pinching.
3. Place regulator inside mouthpiece cover and position the mouthpiece so it is between the bottle and the regulator with the regulator purge cover facing toward the entrance slide fastener of the vest.

6-87. Stowing CBR Configuration.

1. Pass plastic tie wrap through the center of the mouthpiece cover, around the narrowest part of the cover and through both grommets.
2. Secure the tie wrap tightly around the cover.
3. Place regulator inside mouthpiece cover and position the mouthpiece so it is between the bottle and the regulator with the regulator purge cover facing toward the entrance slide fastener of the vest.

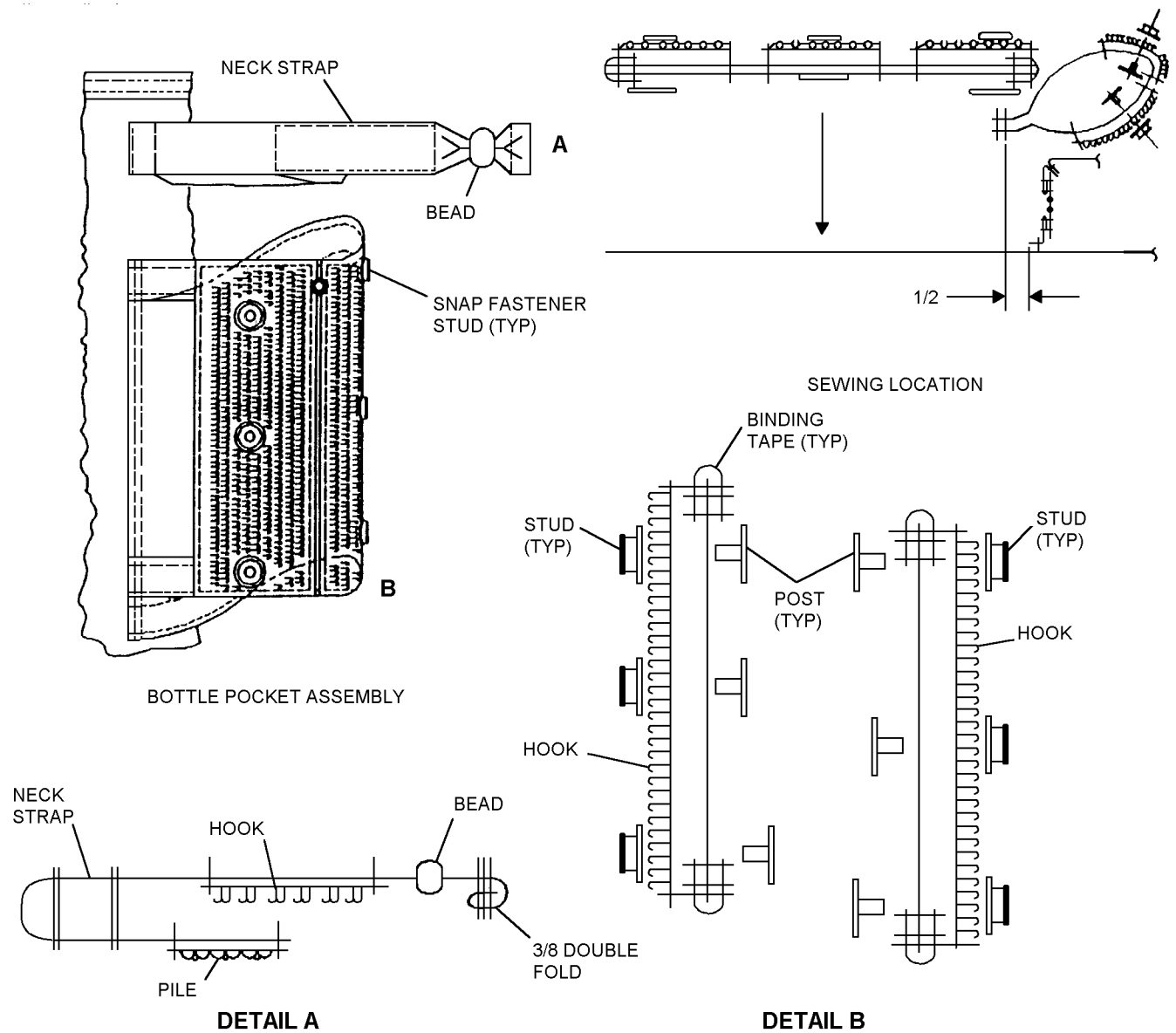


Figure 6-31. Fabrication of SRU-40/P HABD Bottle Pocket Assembly

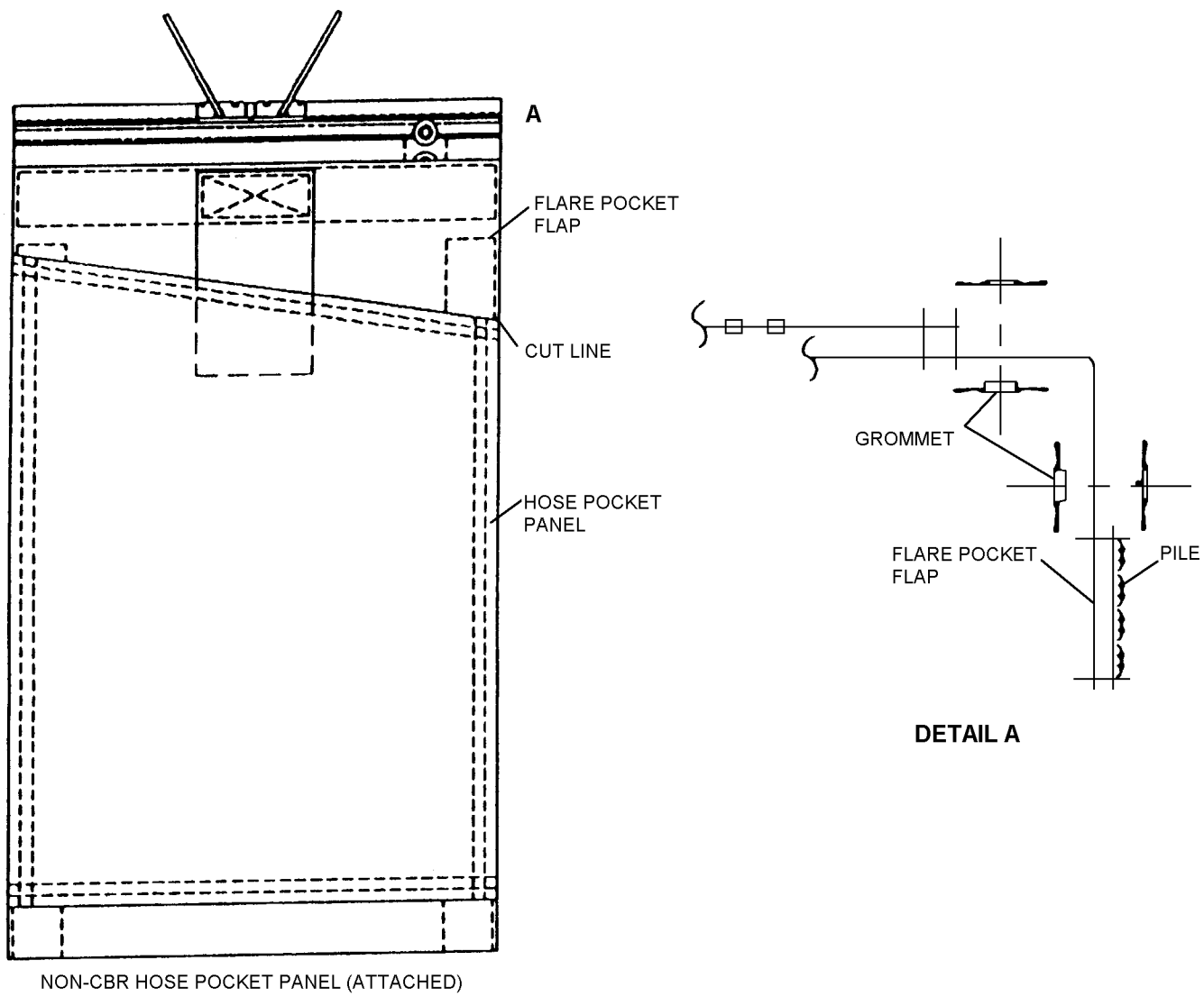


Figure 6-32. Non-CBR Hose Pocket Assembly

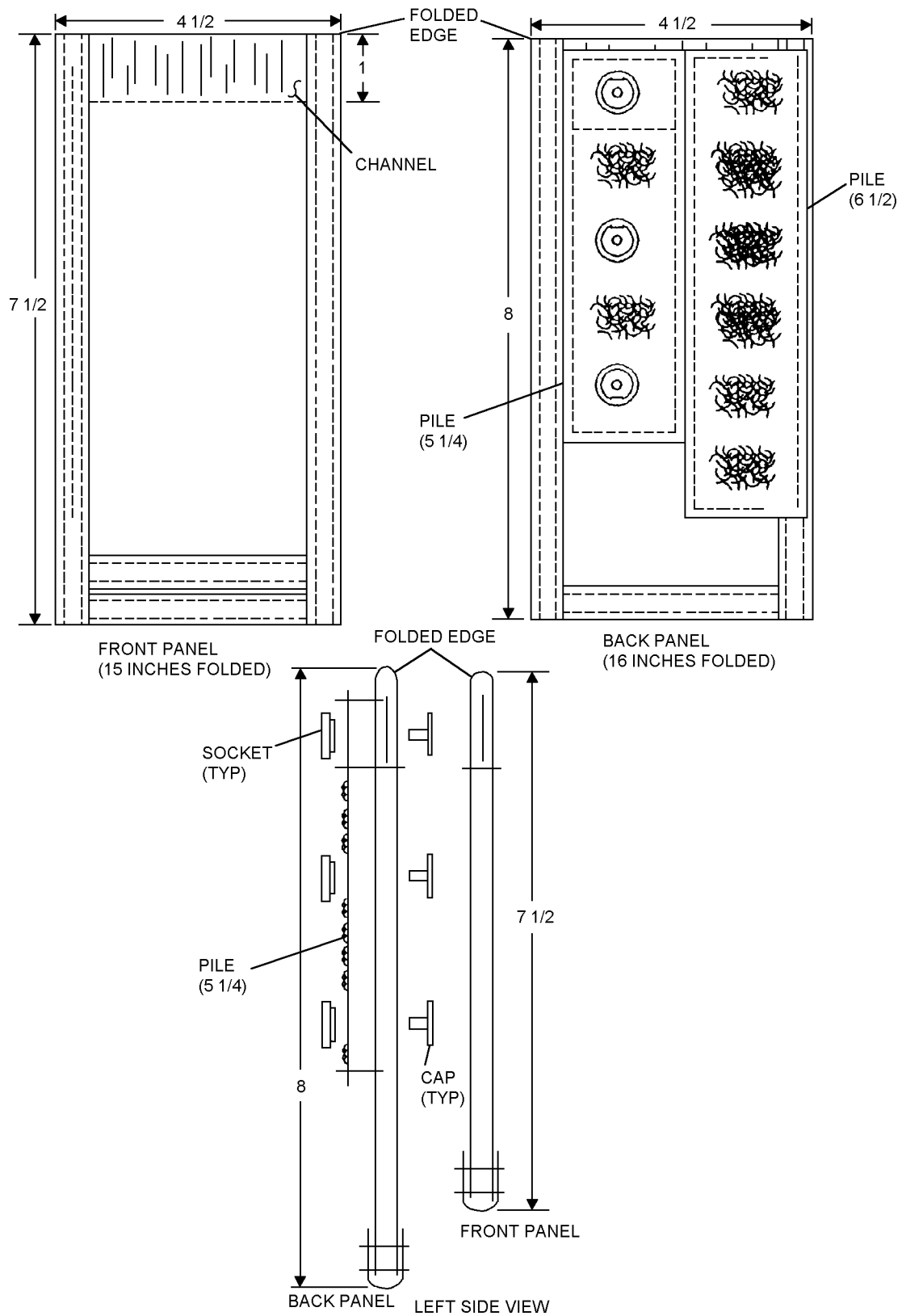


Figure 6-33. Fabrication of CBR Hose Pocket Assembly

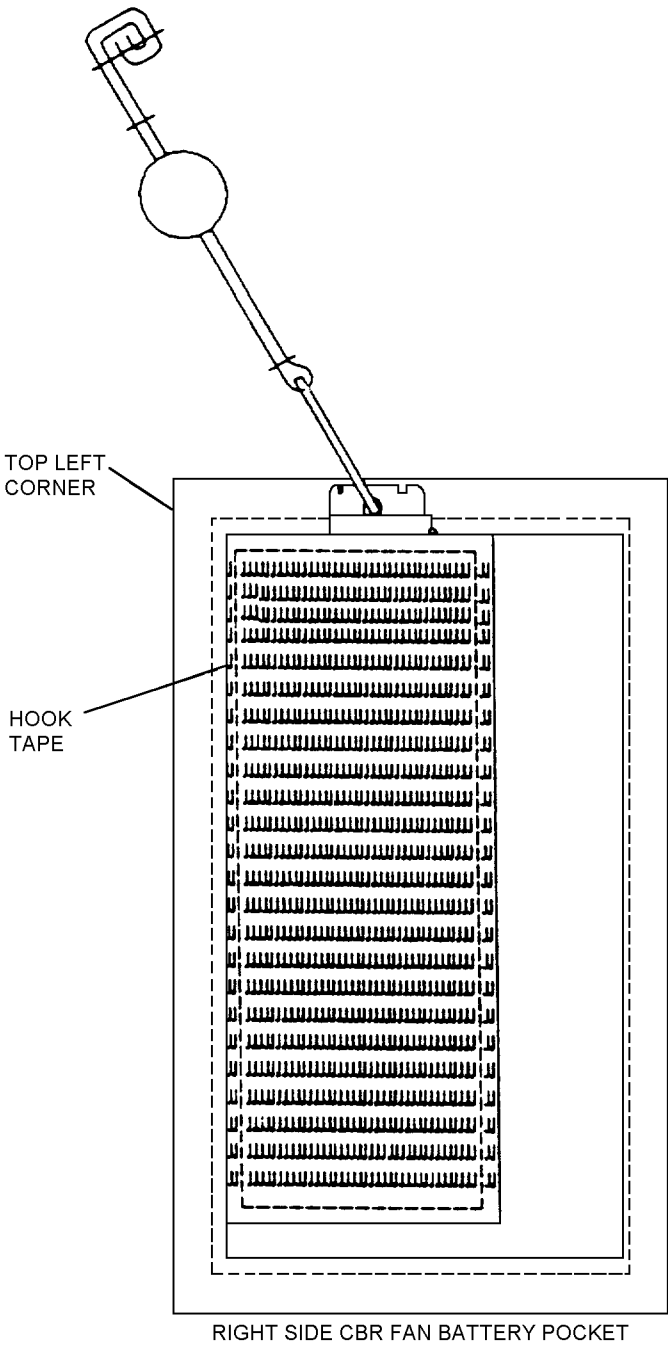


Figure 6-34. Attachment of Hook Tape to CBR Pusher Fan Battery Pocket

6-87A. FABRICATION OF HEED TETHER. The HEED Tether is comprised of two assemblies, a snap hook assembly and a handle assembly. Each assembly is fabricated as follows:

Materials Required

Quantity	Description	Reference Number
1	Bead, Inflation Handle	975AS122-1
As Required	Thread, Nylon, Size E, SG Type 1 or Type 2	V-T-295 NIIN 00-204-3884
As Required	Fastener Tape, Pile, 1-Inch	MIL-F-21840 NIIN 00-106-5974
As Required	Fastener Tape, Hook, 1-Inch	MIL-S-21840 NIIN 00-106-5973
1	Snap Hook, 1-Inch Base	MIL-S-43770/1 NIIN 01-187-9402
As Required	Cord, Type 1A	MIL-C-5040 NIIN 00-292-9920
As Required	Webbing, 1-Inch, Nylon, Type II, Shade 33538	MIL-W-4088
As Required	Tape, Webbing, 1-Inch, (Alternate)	MIL-T-5038 NIIN 00-262-1643

NOTE

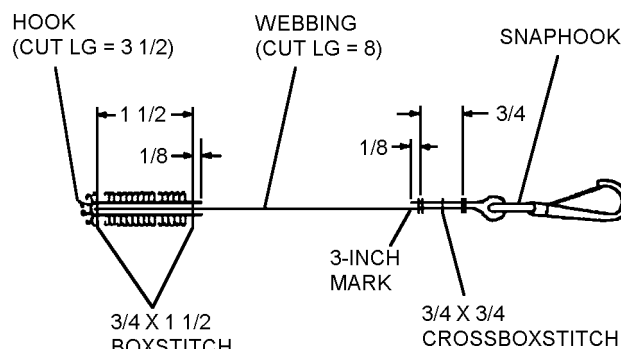
All stitching shall be 301 lock stitch, 6 to 9 stitches per inch, 1/8 inch from edge.

1. For snap hook assembly, measure 8-inch length of 1-inch webbing and sear cut ends.

a. Measure and mark 3 inches from either end of webbing.

b. Insert marked end of webbing through snap hook and fold over to 3-inch mark and sew using 3/4 x 3/4-inch cross boxstitch.

c. Cut 3 1/2-inch of 1-inch hook tape and fold in half with hook side out. Sandwich free-end of webbing between folded hook tape and sew together using 3/4 x 1 1/2-inch boxstitch.



Steps 1b and 1c - Para 6-87A

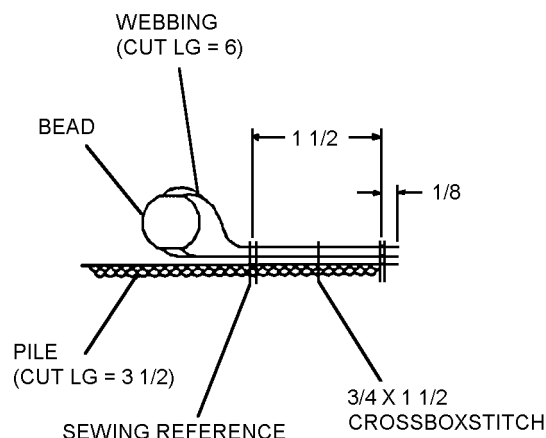
6p87As1b

2. For handle assembly, measure 6-inch length of 1-inch webbing and sear cut ends.

a. Thread end of webbing through inflation handle bead; center, fold in half, and align webbing ends.

b. Cut 3 1/2-inch length of pile tape. Measure and mark sewing reference line at mid point of pile tape.

c. Place pile tape on top of folded webbing with pile facing out. Align end of pile with ends of webbing and sew together using 3/4 x 1 1/2-inch cross boxstitch leaving opposite end of pile tape free and extending beyond handle bead.



Steps 2a thru 2c - Para 6-87A

6p87as2a

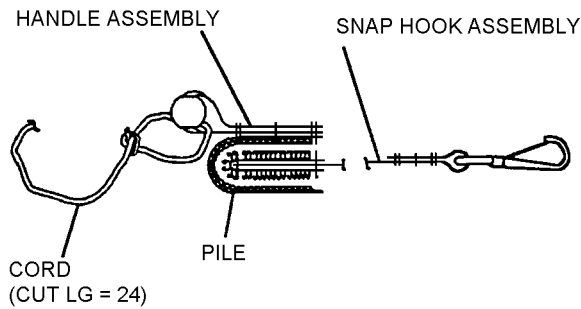
3. To assemble snap hook assembly and handle assembly, Palign sewn end of pile tape on handle assembly with end of hook tape sewn to top of snap hook webbing. Mate pile tape with hook tape around end of snap hook assembly and along bottom of webbing.

NAVAIR 13-1-6.7-2

4. Cut a 24-inch length of cord and thread end through webbing loop on which handle bead is installed and secure loose loop with bowline knot and lock with overhand knot. Total length of assembled tether from tip of snap hook to neck of HEED should be 29 inches ± 1 inch.

NOTE

The opposite end of the cord is secured to neck of HEED bottle.



Steps 3 and 4 - Para 6-87A

6-87B. FABRICATION OF CMU-23A/P CONFIGURATION COMPONENTS. Figure 6-34A illustrates the locations of the components which makes up the CBR mode configuration of the CMU-23A/P Survival Vest.

Materials Required

Quantity	Description	Reference Number
1 Yd	Nylon Fabric	MIL-C-7219 NIIN 01-173-4436
20"X20"	Vinyl Coated Nylon	MIL-C-20696 NIIN 00-616-0022
2	Slide Fastener Size MED	A-A-55634 NIIN 00-252-5398
2	Bottom Stops LG	A-A-55634 NIIN 00-472-8679
As Required	Thread, Nylon Size E	V-T 295 NIIN 00-204-3884
8"	Elastic, 1" W	MIL-W-5664 NIIN 00-263-3600
2	Grommet Size "00"	MS20230B20 NIIN 00-291-0302
4	Rivets	MS20426AD4-6 NIIN 00-117-6951
12"	Webbing, Textile Type IV	MIL-T-5038 NIIN 00-655-5123
1 Yd	Fastener Tape, Hook 2"	MIL-F-21840 NIIN 00-450-9837

Materials Required (Cont)

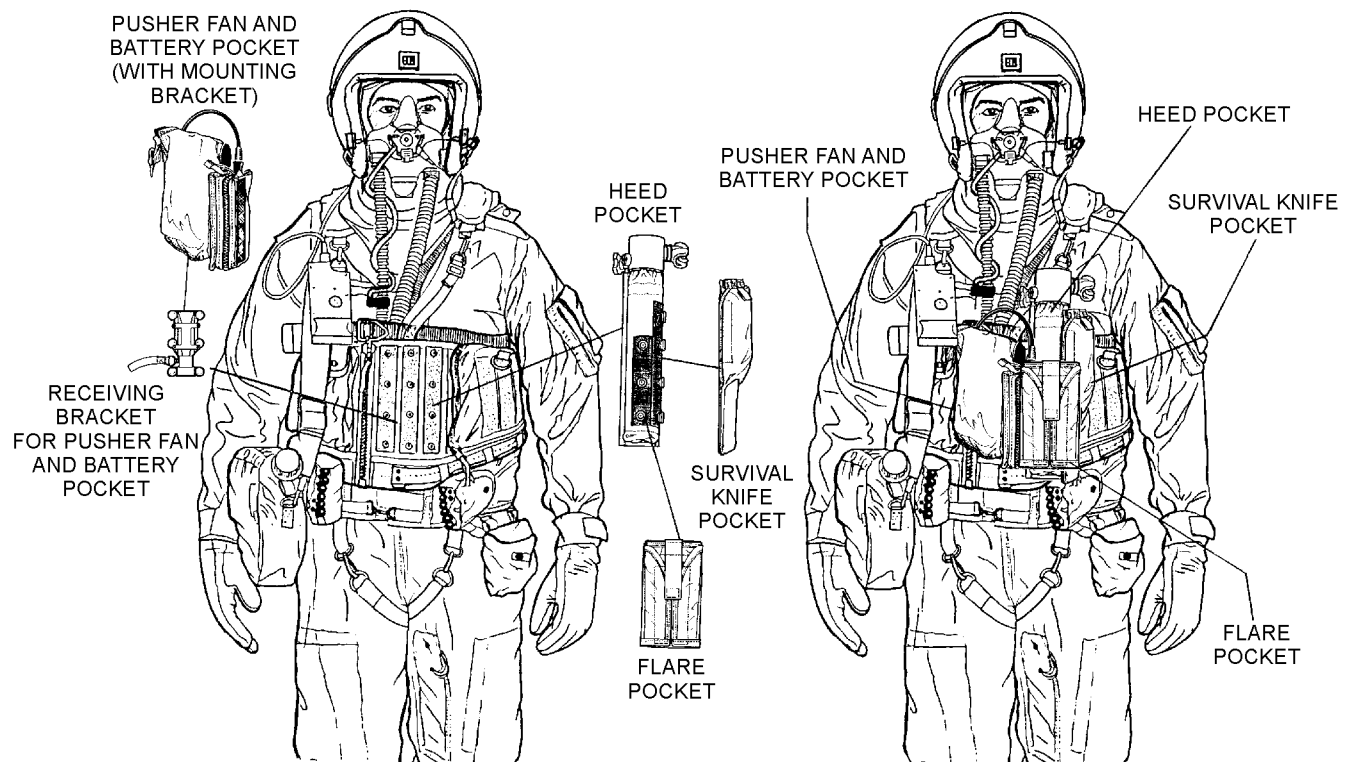
Quantity	Description	Reference Number
1 Yd	Fastener Tape, Pile 2"	MIL-F-21840 NIIN 00-405-2265
26	Cap, Snap Fastener	MS27983-1 NIIN 00-891-9073
26	Socket, Snap Fastener	MS27983-2 NIIN 00-893-6243
20	Stud, Snap Fastener	MS27983-3 NIIN 00-276-4908
20	Post, Snap Fastener	MS27983-4 NIIN 00-276-4978
1 Yd	Faster Tape, Hook 1"	MIL-F-21840 NIIN 00-106-5973
1 Yd	Fastener Tape, Pile 1"	MIL-F-21840 NIIN 00-106-5974
6	Tape, Textile Nylon Type III 1"	92XE-18103-A2B NIIN 00-753-6144
24"	Tape, Textile Nylon Type III 1/2"	MIL-T-5038 NIIN 00-255-7673
22"	Tape, Textile Nylon Type III 1/2"	MIL-T-5038 NIIN 00-255-7673

6-87C. Fabrication of CBR Pistol Pocket Snap Fastener Panel (Figure 6-34A1)

NOTE

All stitching shall be in accordance with ASTM-D-6193. Stitches per inch shall be 7 to 10 stitches per inch with 3/4-inch backstitching or overstitching unless otherwise stated. All nylon material will be sear cut. Position all patterns with the warp direction of the fabric. Edge stitching shall be 1/8 inch from edge unless otherwise stated.

1. Place pistol pocket snap fastener panel pattern (figure 6-34B) on 10 nylon fabric. Mark all points, sew line edges and cut out the panel. Turn panel over, position snap fastener panel pattern on fabric and mark reinforcement panel location sew lines.
2. Place pistol pocket snap fastener reinforcement panel pattern (figure 6-34C) on the Herculite fabric, trace and cut out the reinforcement panel.
3. Lay reinforcement panel fabric onto the snap fastener panel nylon fabric within the sew lines indicated and sew in place.
4. All four sides of the cut edge fabric of the snap fastener panel shall be folded inboard 3/4 inch, covering all raw edges of the reinforcement panel and sew in place.



006034a

Figure 6-34A. CMU-23A/P Survival Vest (CBR Mode)

5. With the snap fastener panel nylon side face up, position the reinforcement panel pattern properly on top and mark locations for, hook tape placement. Cut three pieces of two-inch hook tape 7 1/2 inches long and sew in place at locations marked.

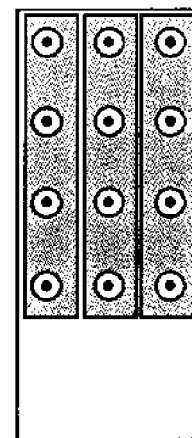
6. With the two inch hook tape sewn, position reinforcement panel pattern on top of hook tapes, mark the 12 snap locations and punch cut holes for installation of snaps.

NOTE

Install the six snap sockets closest to the top with the lock lug towards the top edge of panel. When positioned, the pull the dot release action will be from the center of the panel. Install the six remaining snap sockets with the locking lug towards the bottom, so the pull the dot release action from the center will be the opposite direction of the previously installed snaps.

7. Install the 12 sockets (MS27983-2) and caps (MS27983-1) with the sockets on the hook tape side of the pistol pocket snap panel.

8. Refer to ACC 616 for location and sewn placement on to pistol pocket back.

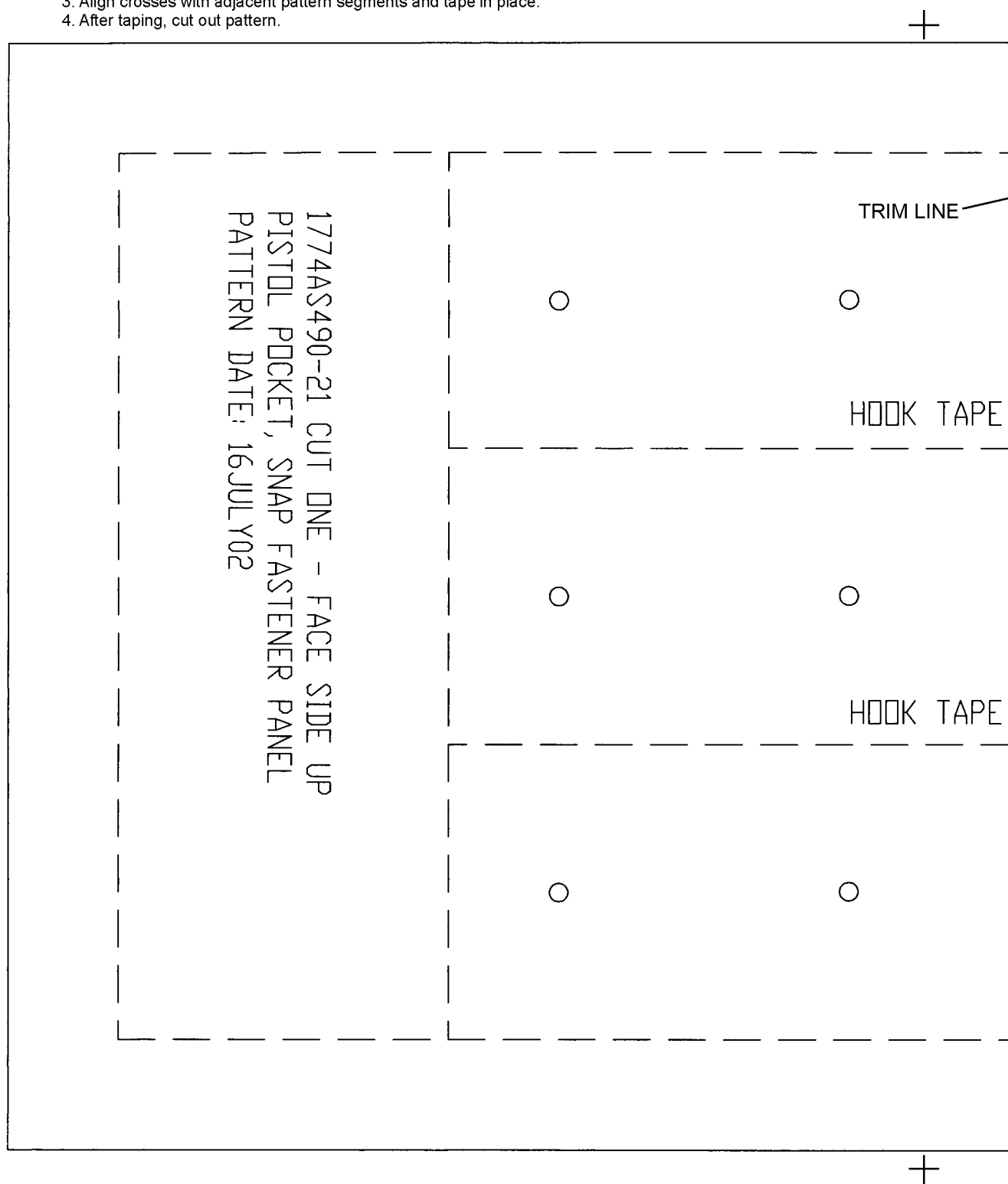


006034a1

Figure 6-34A1. CBR Pistol Pocket Snap Fastener Panel

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34B. Pistol Pocket Snap Fastener Panel Pattern (Sheet 1 of 2)

06034b01

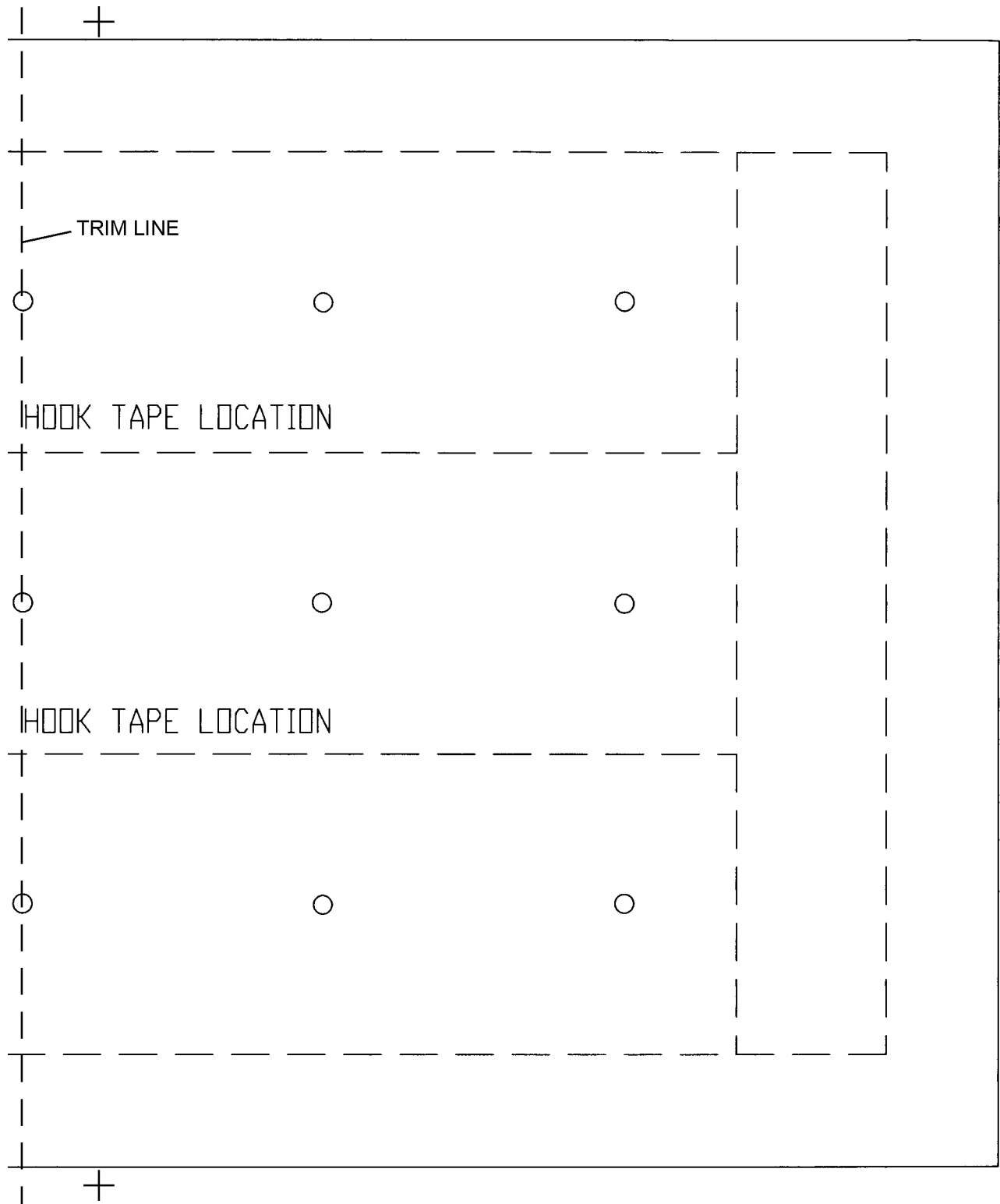
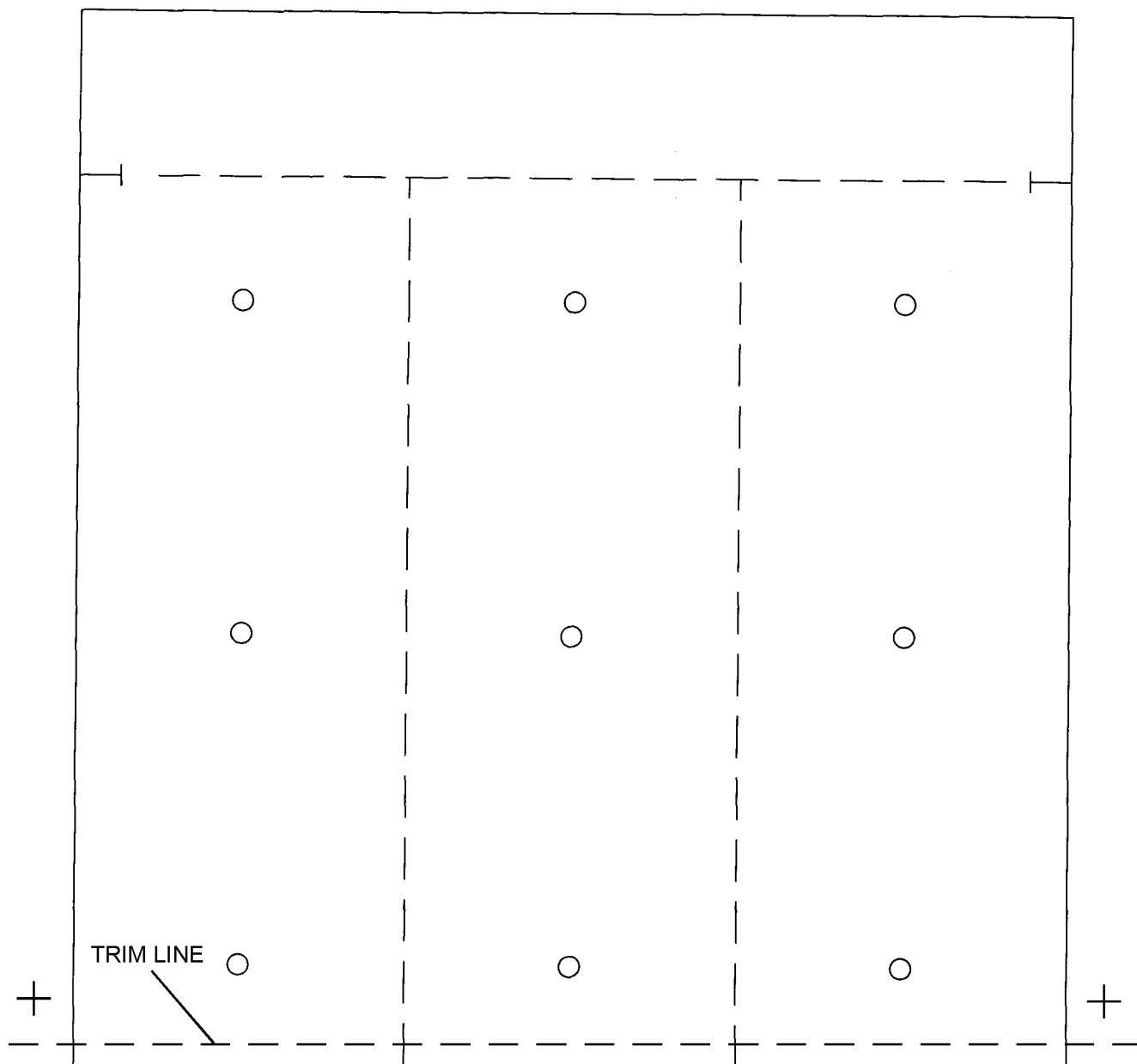


Figure 6-34B. Pistol Pocket Snap Fastener Panel Pattern (Sheet 2 of 2)

06034b02

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34C. Pistol Pocket Snap Fastener Reinforcement Panel Pattern (Sheet 1 of 2)

06034c01

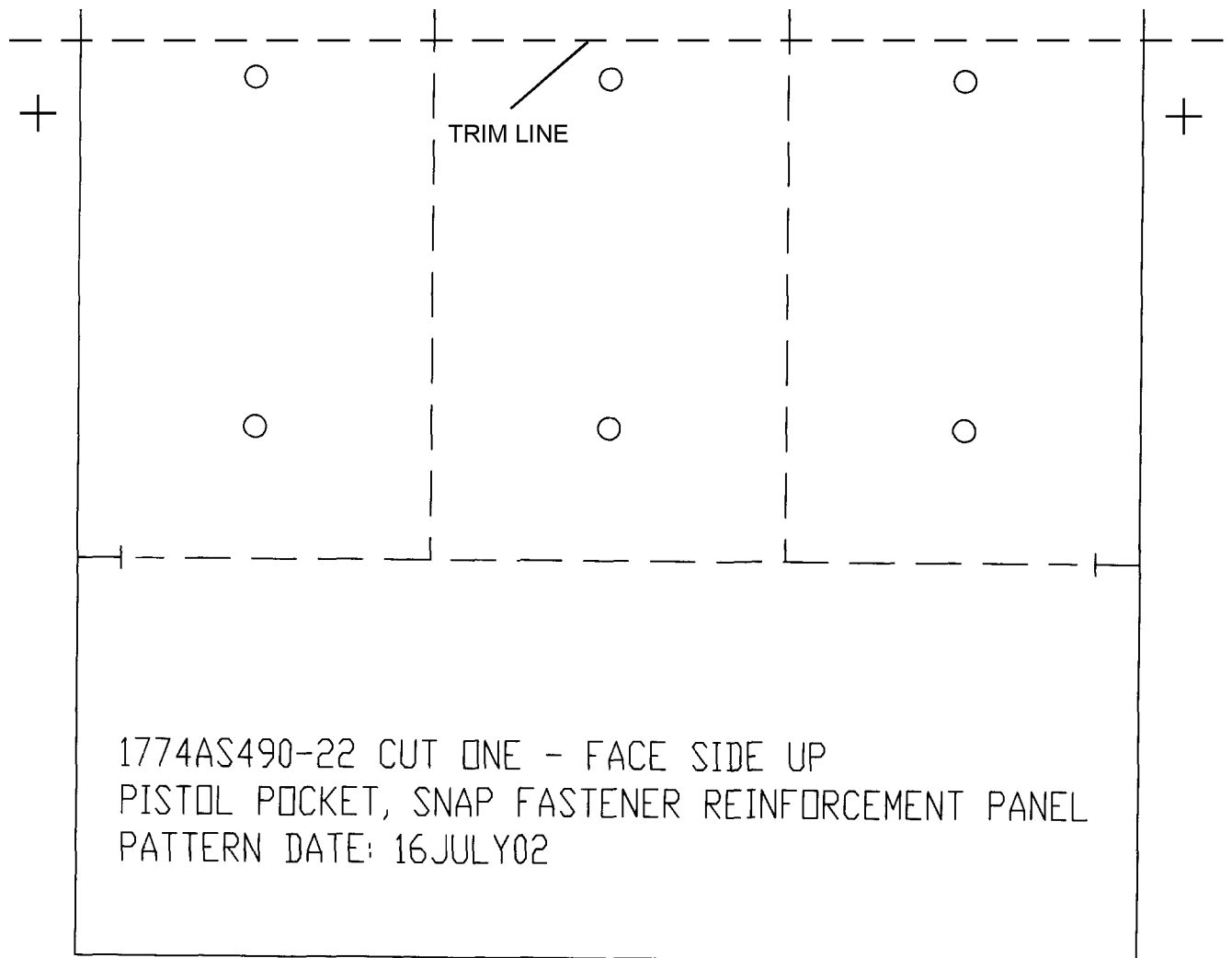


Figure 6-34C. Pistol Pocket Snap Fastener Reinforcement Panel Pattern (Sheet 2 of 2)

06034c02

6-87D. Fabrication of CBR Vest Snap Fastener Panel (Figure 6-34D)

NOTE

All stitching shall be in accordance with ASTM-D-6193. Stitches per inch shall be 7 to 10 with 3/4-inch backstitching or over stitching unless otherwise stated. All nylon material will be sear cut. Position all patterns with the warp direction of the fabric. Edge stitching shall be 1/8 inch from edge unless otherwise stated.

1. Place pistol pocket vest snap fastener panel front pattern (figure 6-34E) on top of nylon fabric, mark all points, sew line edges and cut out the panel. Turn panel over, position snap fastener panel front pattern on fabric, and mark snap fastener panel location sew lines.

2. Place pistol pocket vest snap fastener pattern (figure 6-34F) on Herculite fabric, trace and cut out the panel.

3. Lay snap fastener panel fabric onto the snap fastener front panel nylon fabric within the sew lines indicated and sew in place.

4. All four sides of the cut edge fabric of the snap fastener panel front shall be folded inboard 3/4 inch, covering all raw edges of the snap fastener panel and sewn in place.

5. With the snap fastener panel front nylon side face up, position the snap fastener panel pattern on top and mark location for the pile tape placement.

Cut three pieces of two-inch pile tape 7 1/2 inches long. While sewing pile tape in place, overlap tape as indicated on snap fastener panel pattern.

6. With the two-inch pile tapes sewn, again position snap fastener panel pattern on top of pile tape, mark the 12 snap locations and punch cut holes for installation of snaps.

7. Install the 12 studs (MS27983-4) and eyelets (MS27983-3) with the studs on the pile tape side of the vest snap fastener panel.

8. Refer to ACC 616 for location and sewn placement on SV-2 vest.

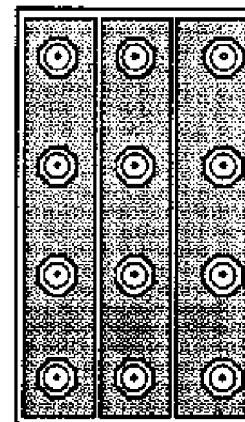
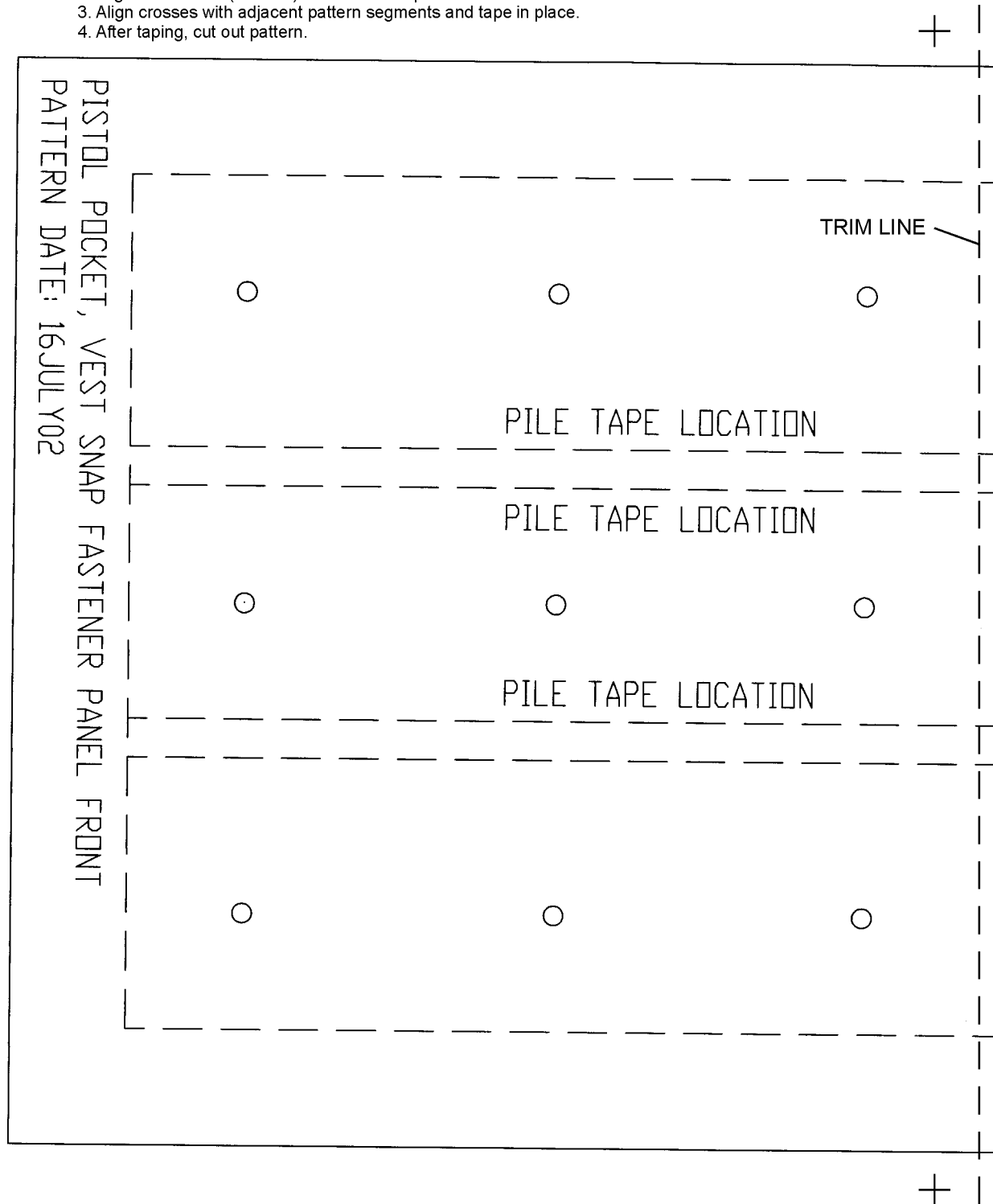


Figure 6-34D. CBR Vest Snap Fastener Panel

006034d

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34E. Pistol Pocket Vest Snap Fastener Panel Front Pattern (Sheet 1 of 2)

06034e01

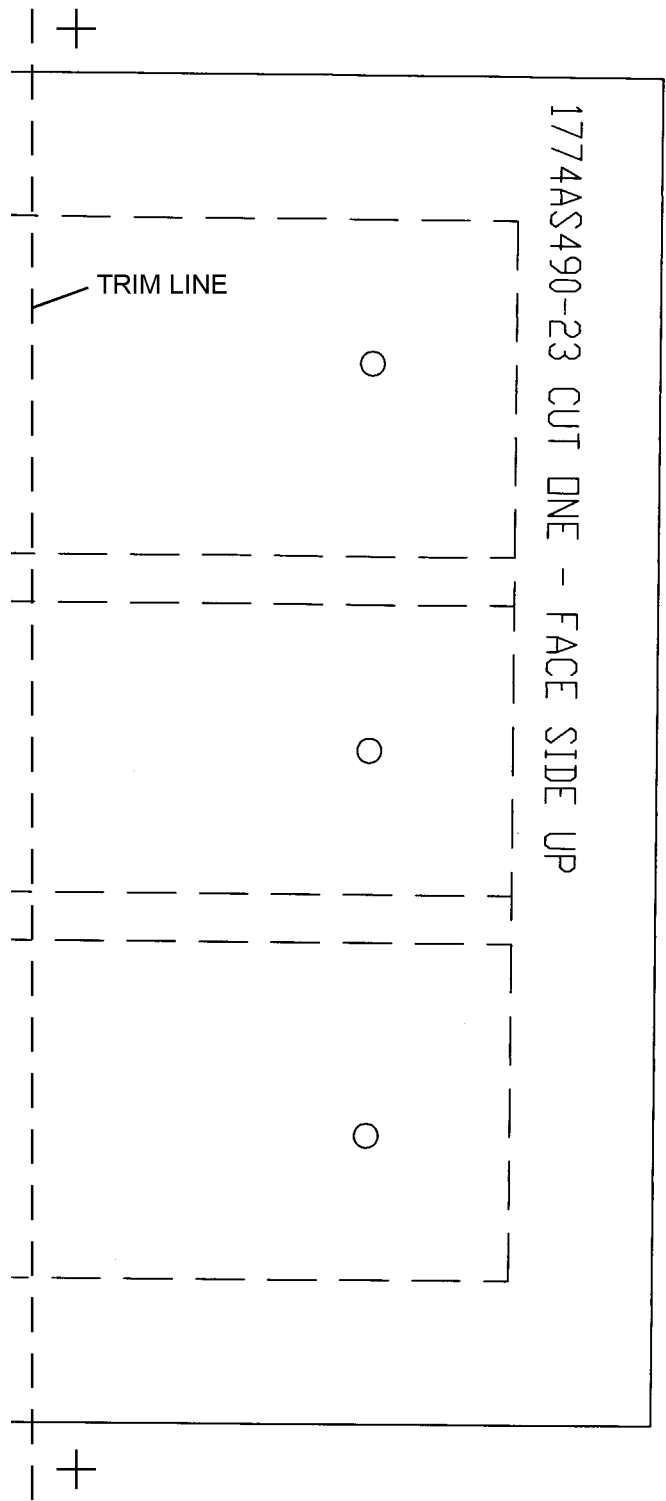


Figure 6-34E. Pistol Pocket Vest Snap Fastener Panel Front Pattern (Sheet 2 of 2)

06034e02

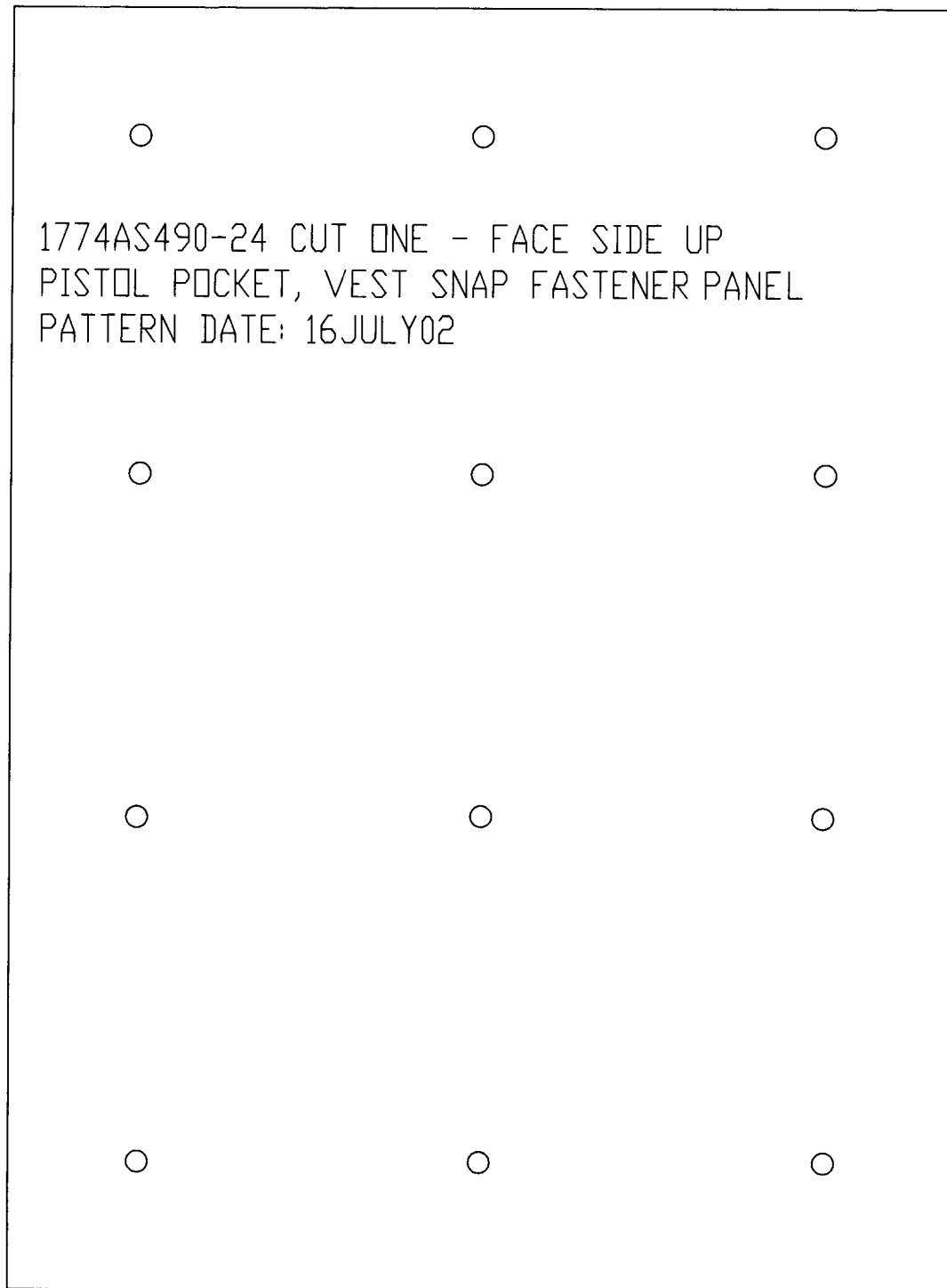


Figure 6-34F. Pistol Pocket Vest Snap Fastener Pattern

006034f

6-66K Fabrication of MK-79 Flare Pocket (Figure 6-34G)

NOTE

Use existing flare pocket for reference if needed. Place all patterns to the fabric warp direction.

1. Flare Pocket Main Pull Flap Panel:

a. Place flare pocket front side panel pattern (figure 6-34H) on to nylon fabric. Mark out side cut lines, all alignment fold lines, all tape placements, alignment sew lines and cut out.

b. Cut 4 1/4-inch 1 inch elastic tape, position elastic flat at placement marks and sew to nylon fabric, keeping 1/4 inch from cut edges.

c. Fold front side panel in half at mid-point shown, so that tape placement marks and elastic are inside. Starting at smallest opening 3/4 inches from top, 3/8 inch from edge, sew down and around the three sides, once done turn panel completely right side out.

d. Fold small opening edges inside 3/8 inch, with elastic excess to center, top stitch entire panel using one row of stitches.

e. Using pocket pull tab pattern (figure 6-34J), manufacture pull tab using Type IV webbing. Center unsewn edge of tab onto fabric and box stitched end away from panel. Sew tab in place with 1 row of stitches at panel topstitched edge.

f. Cut 1 piece of 1-inch pile tape 3 1/4 inches long, 1 piece of 1-inch hook tape 3 1/4 inches long, and 1 piece of 2-inch pile tape 4 3/4 inches long. Sew the tapes in place, fold pull tab to the opposite side of pile tape and sew to panel using a 3/4 inch by 3/4 inch boxstitch.

g. With elastic tape facing up, fold front panel top down and bottom front up at fold line onto elastic tape. With the hook and pile tapes mating, sew folded edges in place using 1 row of stitches. Place completed panel aside until final assembly.

2. Flare Pocket Side Front and Back Panels Construction.

a. Place flare pocket side panel front pattern (figure 6-34K) on to nylon fabric. Mark out side cut lines, alignment fold lines, all tape placements and cut out. Repeat procedure for flare pocket side panel back pattern (figure 6-34L).

b. With right sides in, place side front and back panels on top of each other. Starting at edge turn in flap, 1/4 inch from edge sew panels together and

completely turn right side out. Tuck turn in flap inboard 3/8 inch and top stitch complete panel.

c. Place flare pocket reinforcement panel pattern (figure 6-34M) onto the Herculite fabric, mark outside lines, alignment sew, lines and cut out. Position side panel front side up. Place reinforcement panel onto side panel at points indicated and sew into place.

d. Cut out two pieces, of 1 inch hook tape 4 3/4 inches long, and sew into place onto side panel at locations shown.

e. Turn side panel over with hook tape and Herculite fabric down. Cut 2-inch pile tape 5 1/2 inches long and sew into place sew, flap fold lines into place using one row of stitches.

f. Using the side panel back pattern, position on top of pile tape, mark snap fastener locations. Punch cut, three holes, install socket P/N MS27983-2 to pile side of tape. Ensure two top lock lugs are towards top and one bottom lock lug towards bottom. Set cap MS27983-1 to sockets.

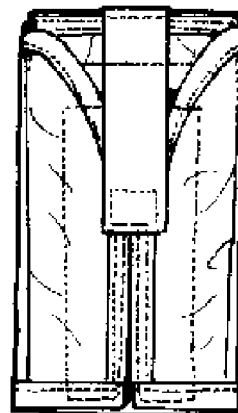
3. Final Assembly.

a. Layout completed side panel with hook tape facing up. Place completed front side panel with the elastic tape facing up on top of reinforcement panel.

b. Position sewn fold lines of front side panel approximately 3/8 inch above, below, and sides centered around reinforcement panel. Sew all 4 edges of front side panel to side panel staying 1/8 inch inboard on reinforcement panel with two rows of stitches side by side.

c. Install size 00 grommet in the completed pocket where marked.

d. Refer to ACC 616 for placement of flare pocket on SV-2 vest snap panel.

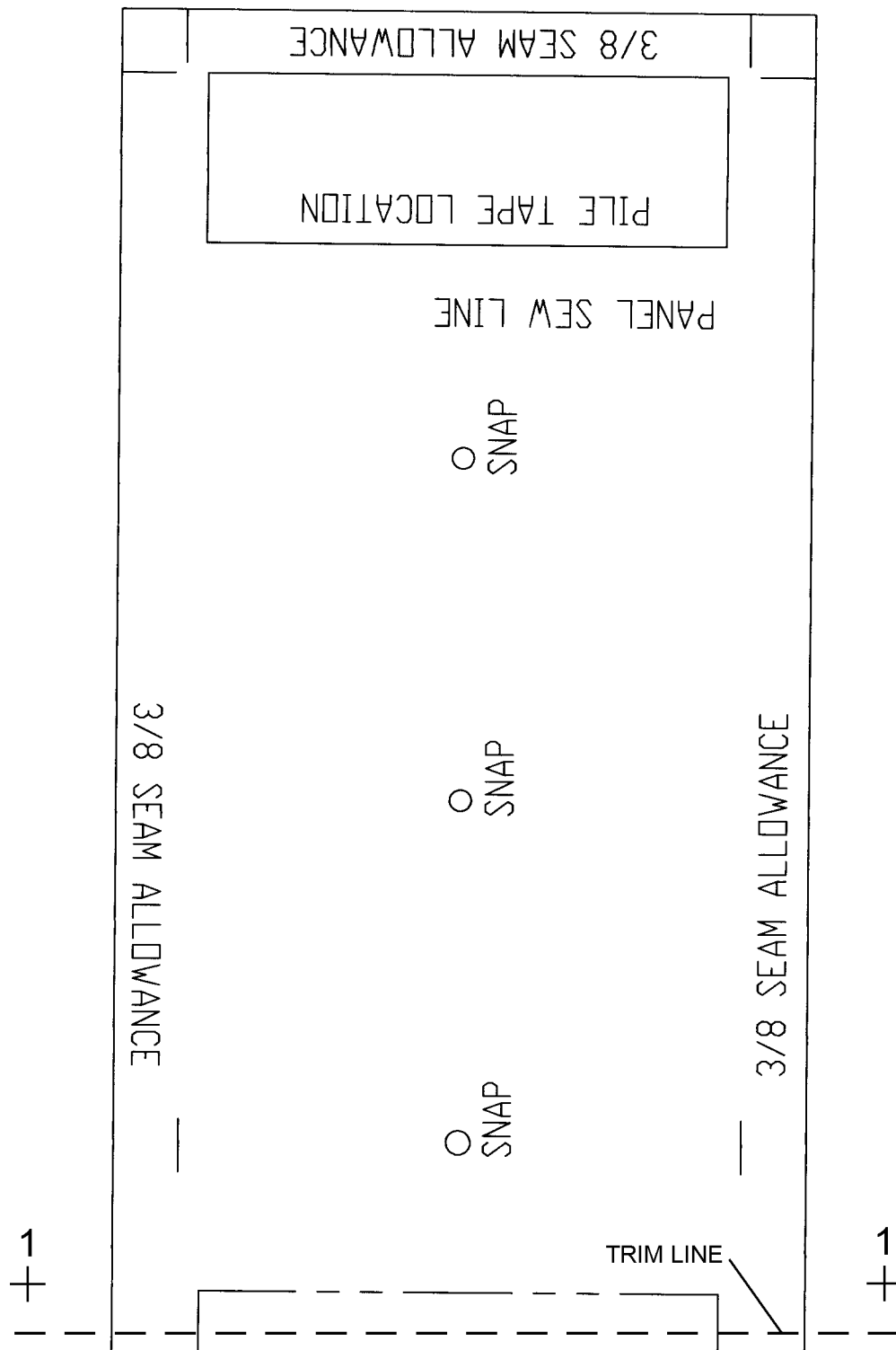


006034g

Figure 6-34G. MK-79 Flare Pocket

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34H. Flare Pocket Front Side Panel Pattern (Sheet 1 of 5)

06034h01

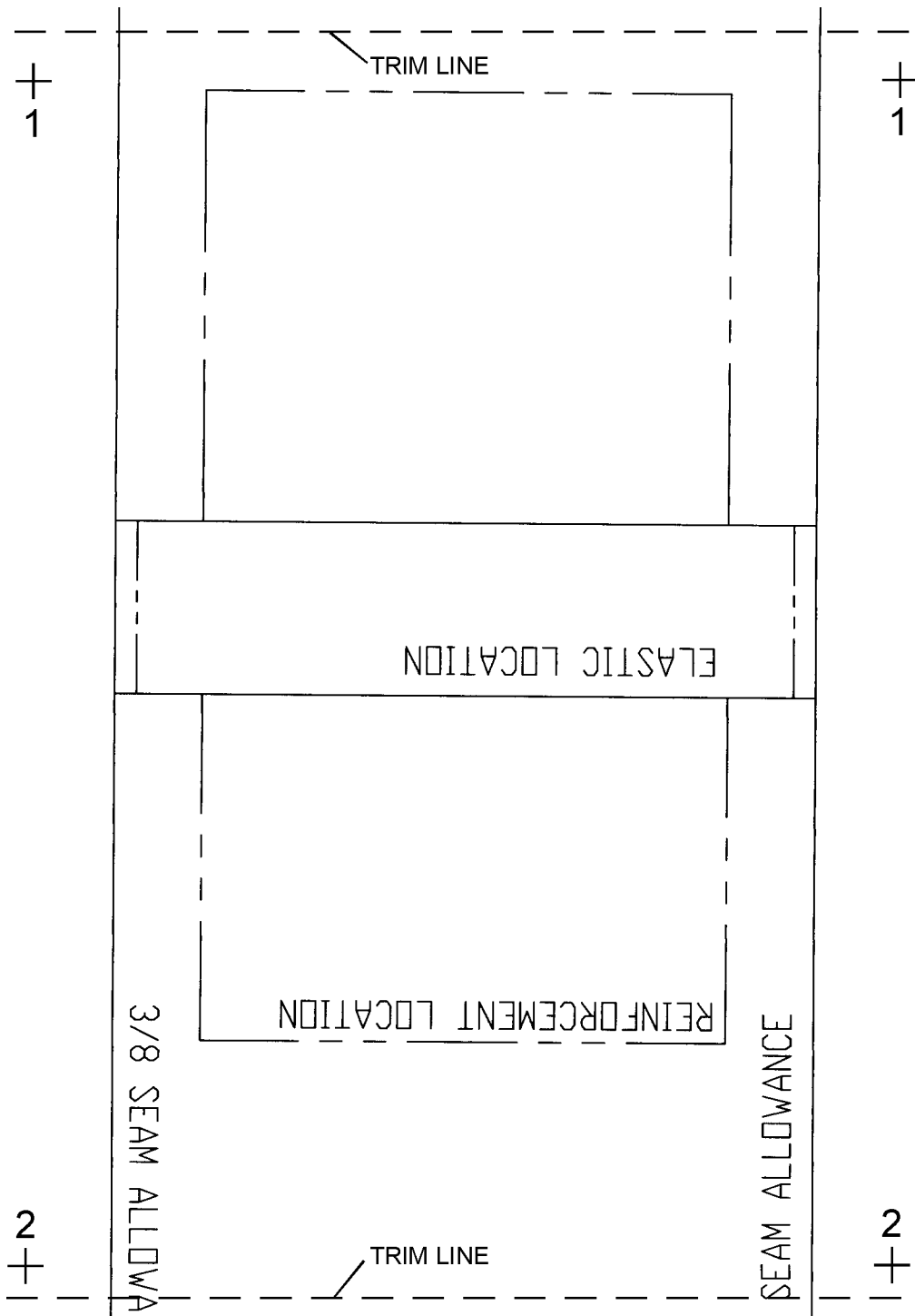


Figure 6-34H. Flare Pocket Front Side Panel Pattern (Sheet 2 of 5)

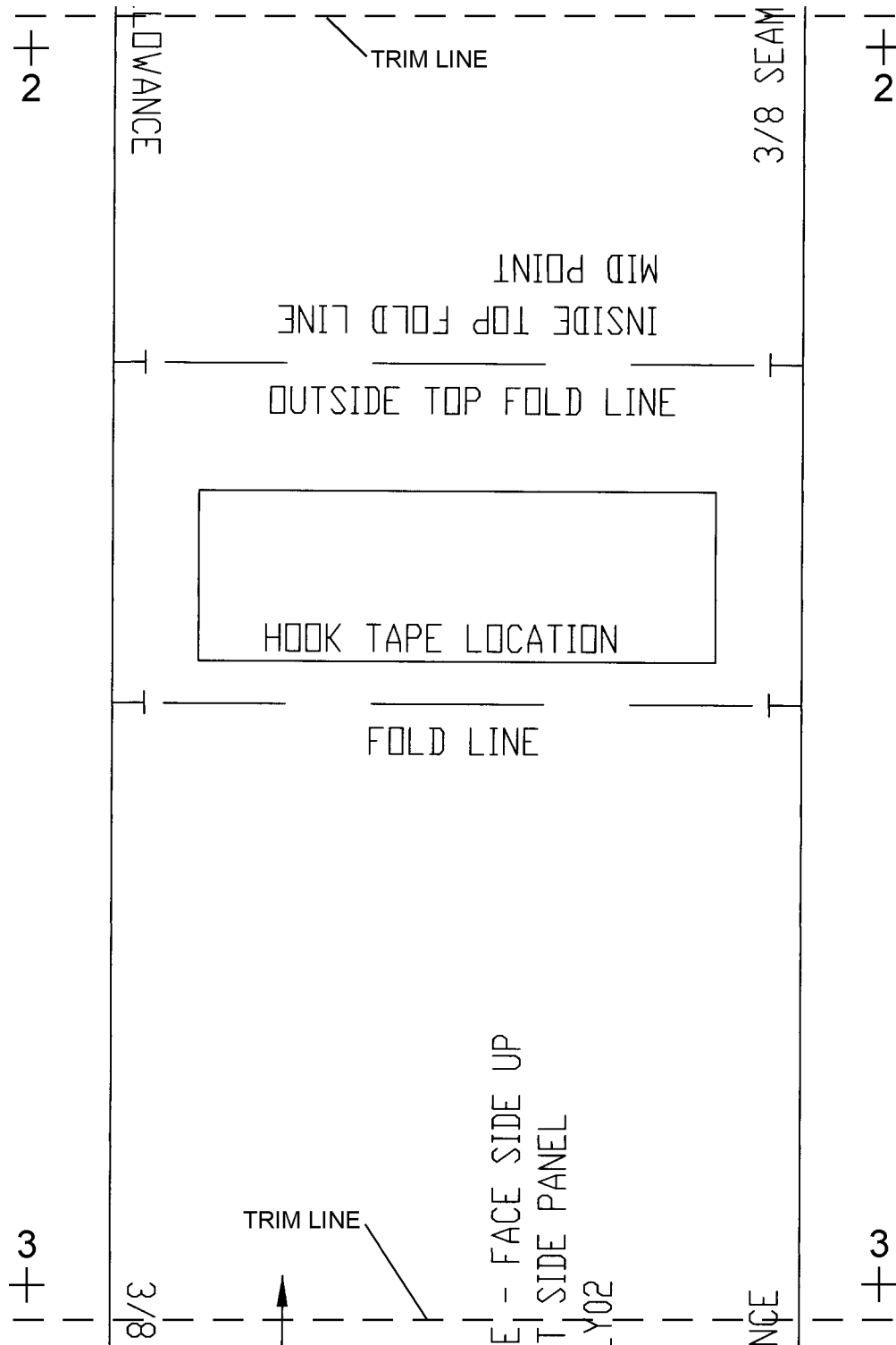


Figure 6-34H. Flare Pocket Front Side Panel Pattern (Sheet 3 of 5)

06034h03

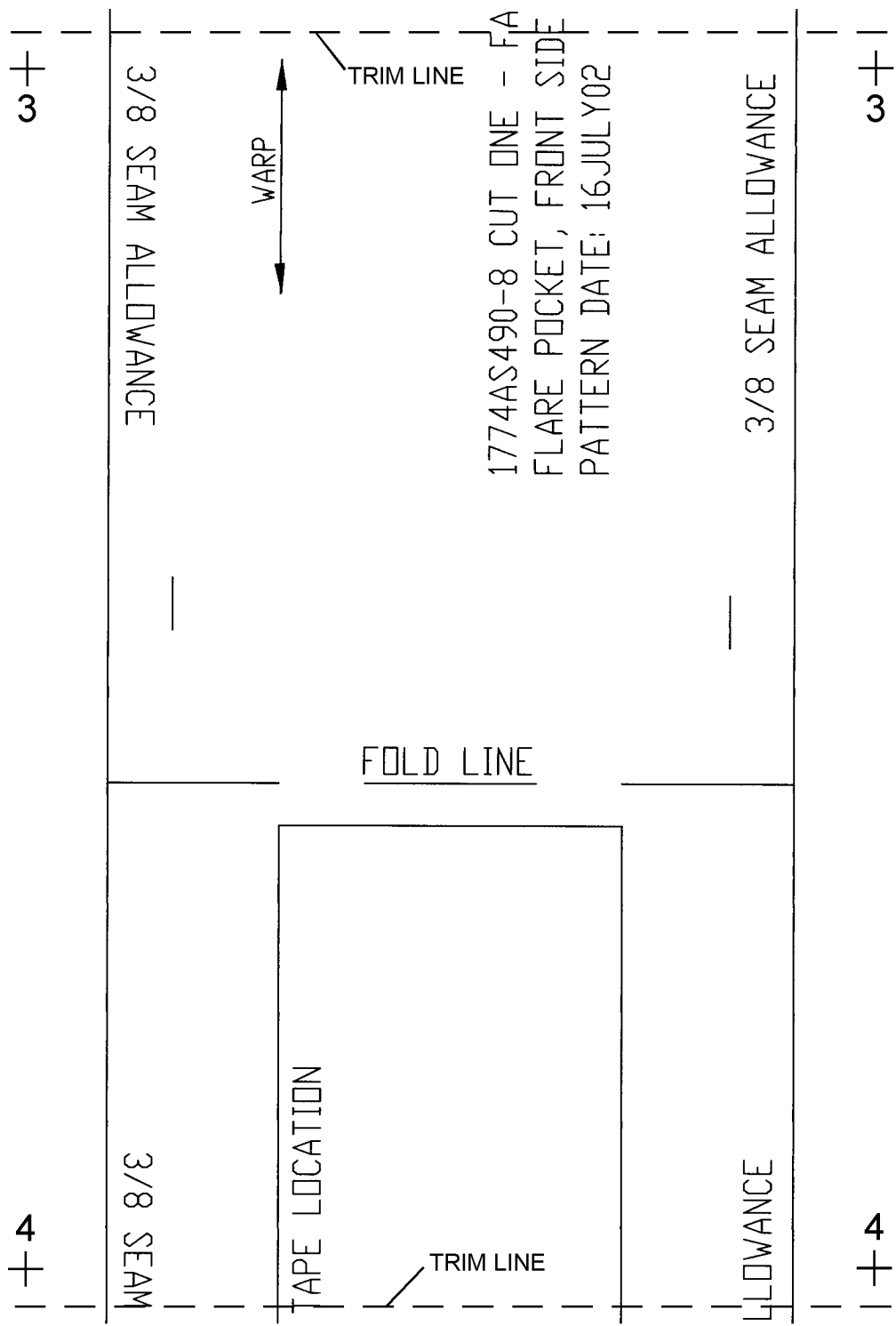


Figure 6-34H. Flare Pocket Front Side Panel Pattern (Sheet 4 of 5)

06034h04

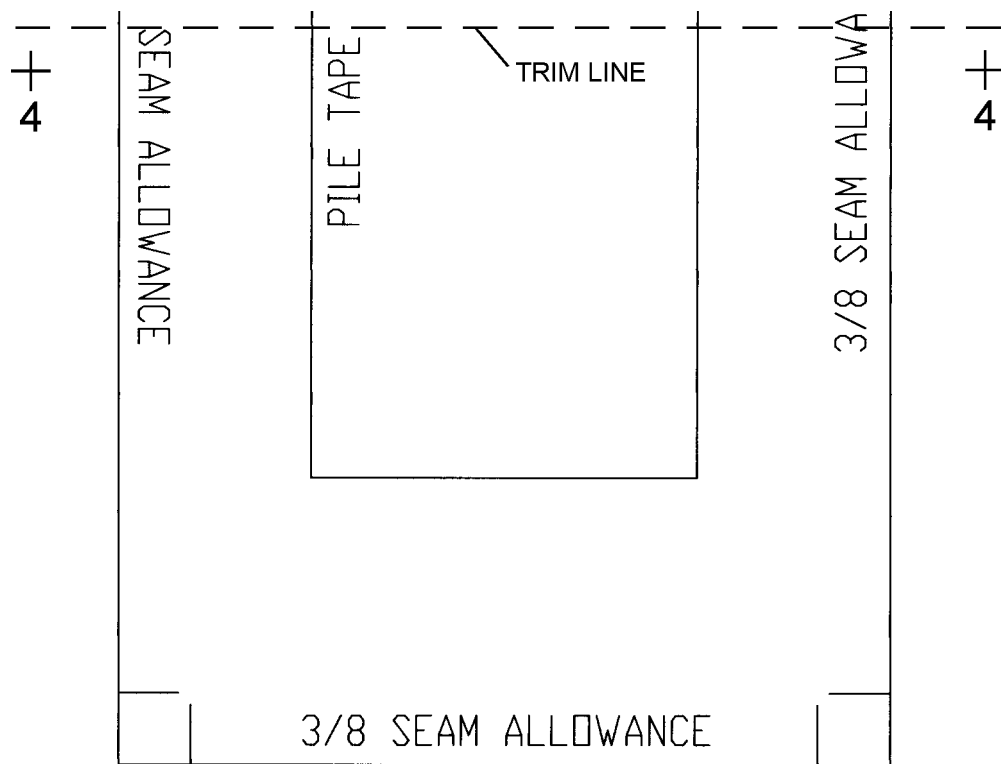


Figure 6-34H. Flare Pocket Front Side Panel Pattern (Sheet 5 of 5)

06034h05

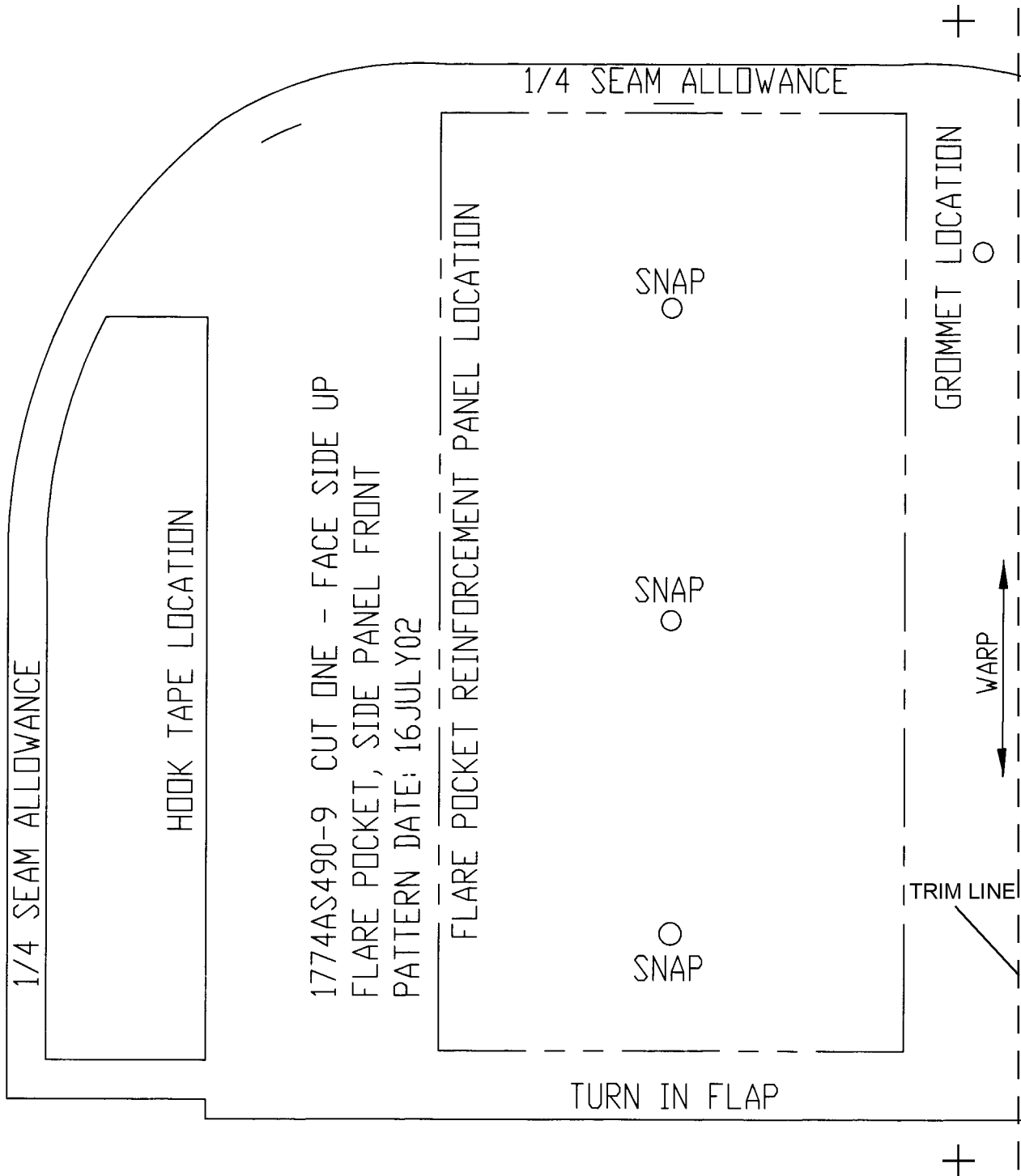
SEW BTWN PILE & FABRIC TAPE	SEWN TO OUTSIDE TO TO LAY FLAT	1774AS490-12 CUT ONE- FACE SIDE UP POCKET, PULL TAB PATTERN DATE: 16JULY02	3/4X3/4 BOXSTITCH OVER FOLDS	FOLD LINE	FOLD LINE
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Figure 6-34J. Pocket Pull Tab Pattern

006034j

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

06034k01

Figure 6-34K. Flare Pocket Side Panel Front Pattern (Sheet 1 of 2)

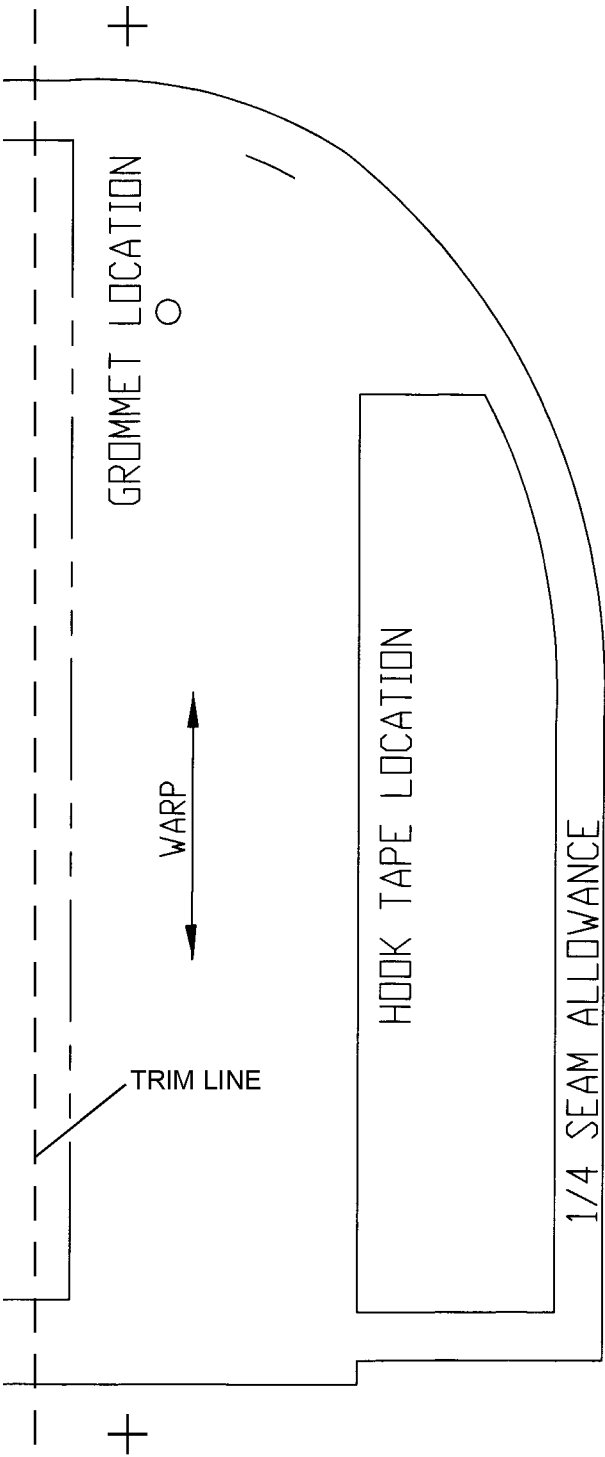
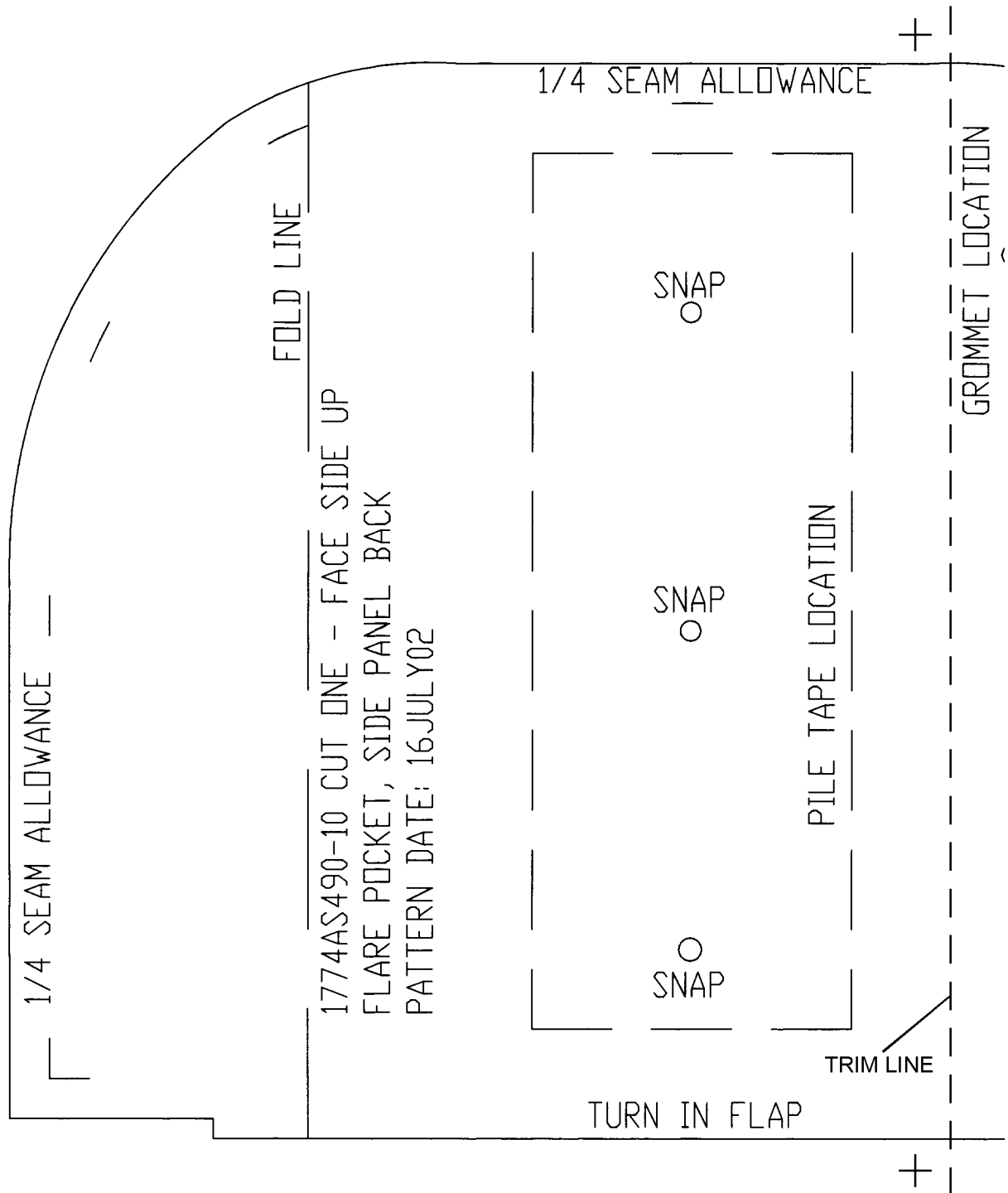


Figure 6-34K. Flare Pocket Side Panel Front Pattern (Sheet 2 of 2)

06034k02

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34L. Flare Pocket Side Panel Back Pattern (Sheet 1 of 2)

06034I01

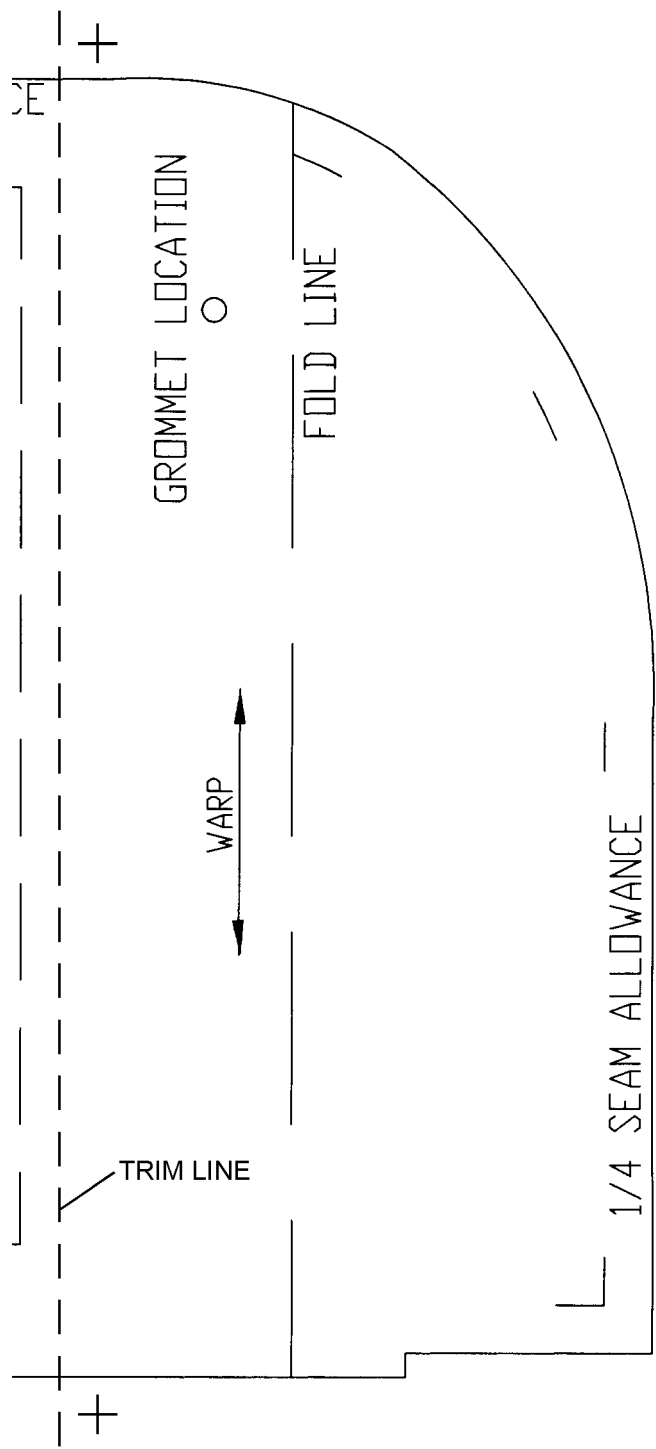
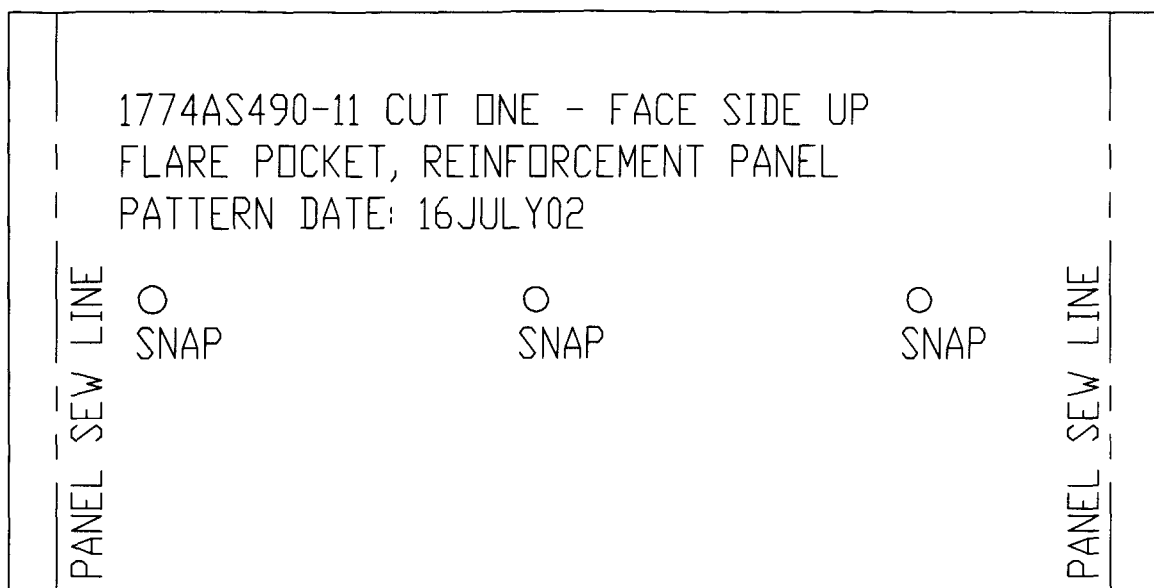


Figure 6-34L. Flare Pocket Side Panel Back Pattern (Sheet 2 of 2)

06034102



006034m

Figure 6-34M. Flare Pocket Reinforcement Panel Pattern

6-66X Fabrication of Survival Knife Pocket (Figure 6-34N)

NOTE

Knife scabbard will be salvaged from NRFI knife pocket or SV-2 vest pocket. If necessary knife scabbard provided with knife will be modified by careful removal of stone pocket and flap. Substitute 7-inch hook tape for 7-inch pile tape if incorporating ACC-639 for the SRU-40 HABD.

1. Place survival knife pocket main panel pattern (figure 6-34P) onto nylon fabric with the face side up, mark all points, sew line edges, locations and cut out. Turn main panel over with back-up, position main panel pattern with back up onto fabric, mark hook tape location and main pile tape locations.

2. Place survival knife pocket reinforcement panel pattern (figure 6-34Q) onto Herculite fabric, mark cut lines and cut out. Turn main panel over with the face side up and sew Herculite panel in place.

3. Place survival knife pocket inside front flap panel and survival knife pocket inside back flap panel patterns (figure 6-34R and 6-34S) onto nylon fabric, mark hook tape locations and pile tape locations and cut out.

4. Position main panel with back facing up, place inside back flap panel with hook tape points towards fabric onto corresponding end, and place inside front flap panel with pile tape points towards fabric onto opposite end. Sew inside front and back flap panels to main panel, leaving openings on each panel towards center fold line, that will be needed to turn each panel right side out, when sewing is finished. Turn panel right side out.

5. After turning right side out, ensure all panel corners are fully turned out and tape locations are visible, top stitch all edges and openings with one row of stitches.

6. Using pocket pull tab pattern (figure 6-34J) manufacture pull-tab using Type IV webbing. Center unsewn edge of tab onto small end placement marks with 1/2 inch of webbing onto fabric and boxstitched end away from panel. Sew tab in place with one row of stitches at pane topstitched edge.

7. Cut 1 piece of 1-inch pile tape 2 1/2 inches long, sew tape in place over sewn pull tab edge. Fold

pull tab to opposite side of pile tape and sew onto nylon panel, using a 3/4 inch by 3/4 inch boxstitch.

8. Cut 2 pieces of 1-inch pile tape 3 3/4 inches long, cut 2 pieces of 1-inch hook tape 3 3/4 inches long, cut 1 piece of 1-inch hook tape 2 1/2 inches long, and 1 piece of 2-inch pile tape 7 inches long. Sew hook and pile tapes on respective locations.

9. With 7-inch pile tape (hook tape) face up, place main panel pattern with back up onto main panel centered on pile tape, and mark snap fastener locations. Punch out 4 holes, install sockets P/N MS27983-2 to pile side of tape. Ensure two lock lugs are towards centerfold line and remaining two lock lugs are towards top of knife pocket, set cap MS27983-1 to sockets.

10. Fold main panel at center with main socket pile tape inside, match corners of inside back flap panel and inside front flap panel. Sew sides together using rows of stitches side by side 1/4 inch from edges and double backstitch each panel end.

11. Turn main panel right side out, fold the 3 3/4 inch hook tapes in board with the full width and length of tape facing up. At the folded line created, topstitch edge in place along the full length of hook tape. Set "00" grommet at location above the hook tape.

12. Insert knife scabbard for fit, if needed trim top of scabbard leather and sew in place using one row of stitches as shown on main panel pattern.

13. Attach knife pocket onto bottle pocket in accordance with ACC 616.

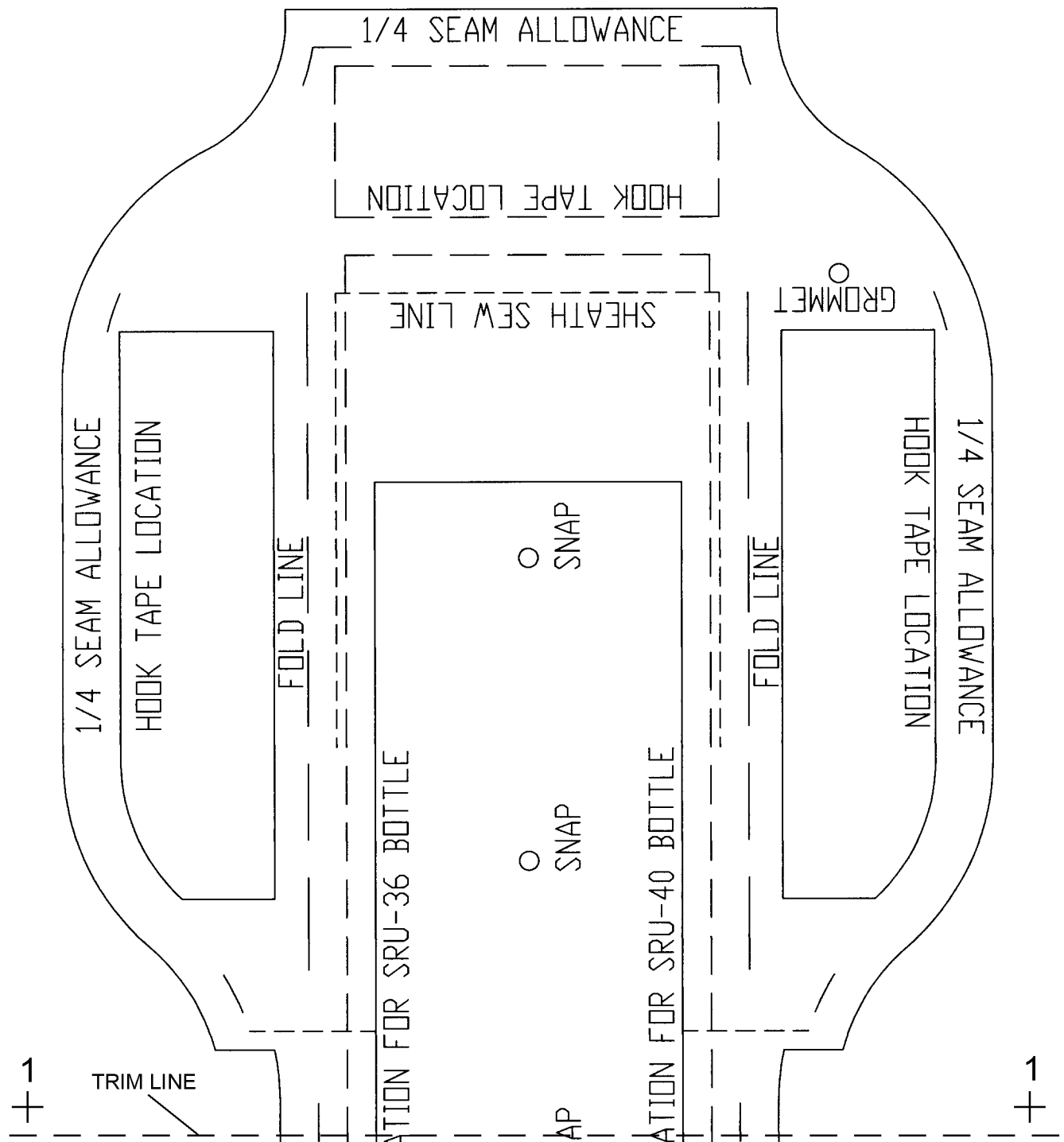


006034n

Figure 6-34N. Survival Knife Pocket

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34P. Survival Knife Pocket Main Panel Pattern (Sheet 1 of 4)

06034p01

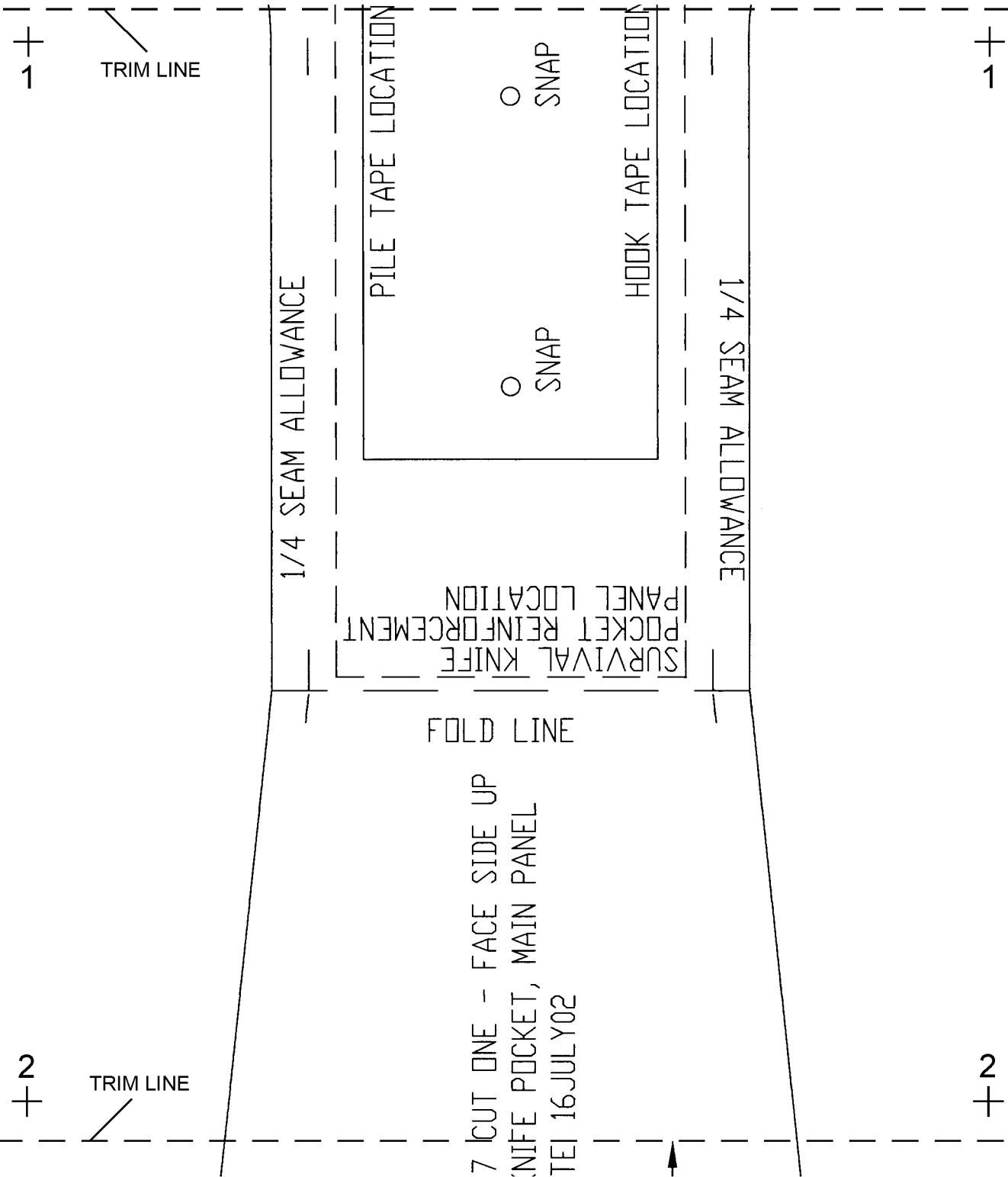


Figure 6-34P. Survival Knife Pocket Main Panel Pattern (Sheet 2 of 4)

06034p02

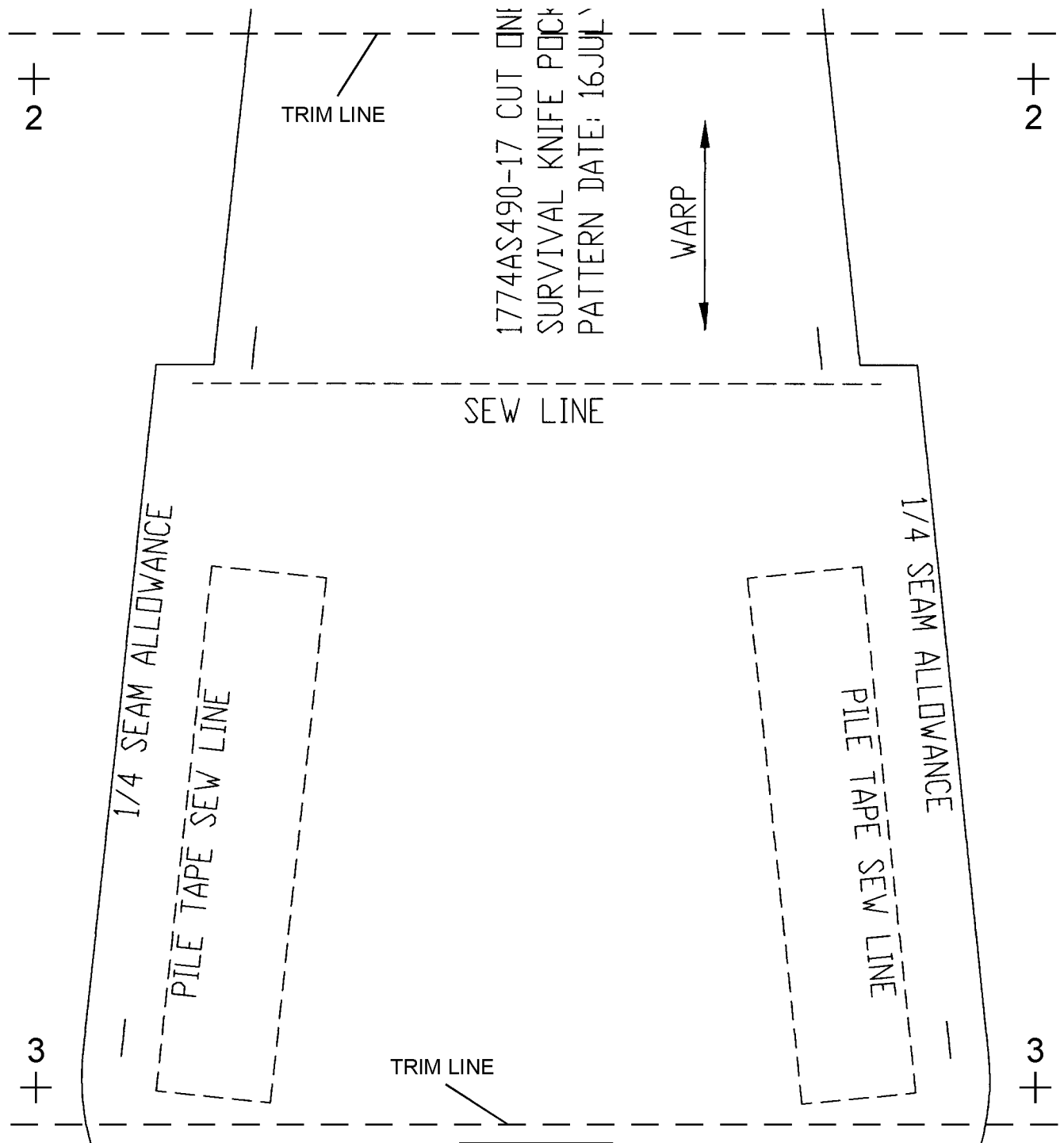


Figure 6-34P. Survival Knife Pocket Main Panel Pattern (Sheet 3 of 4)

06034p03

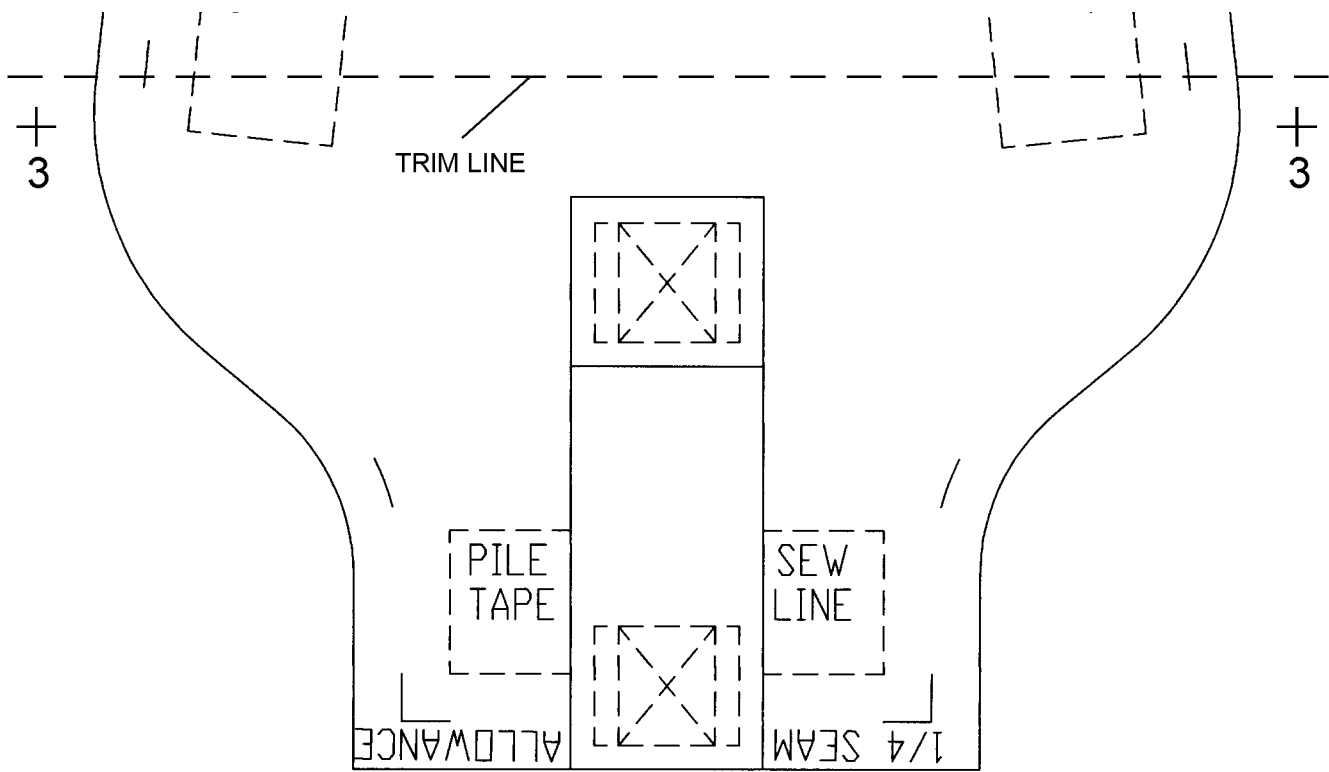
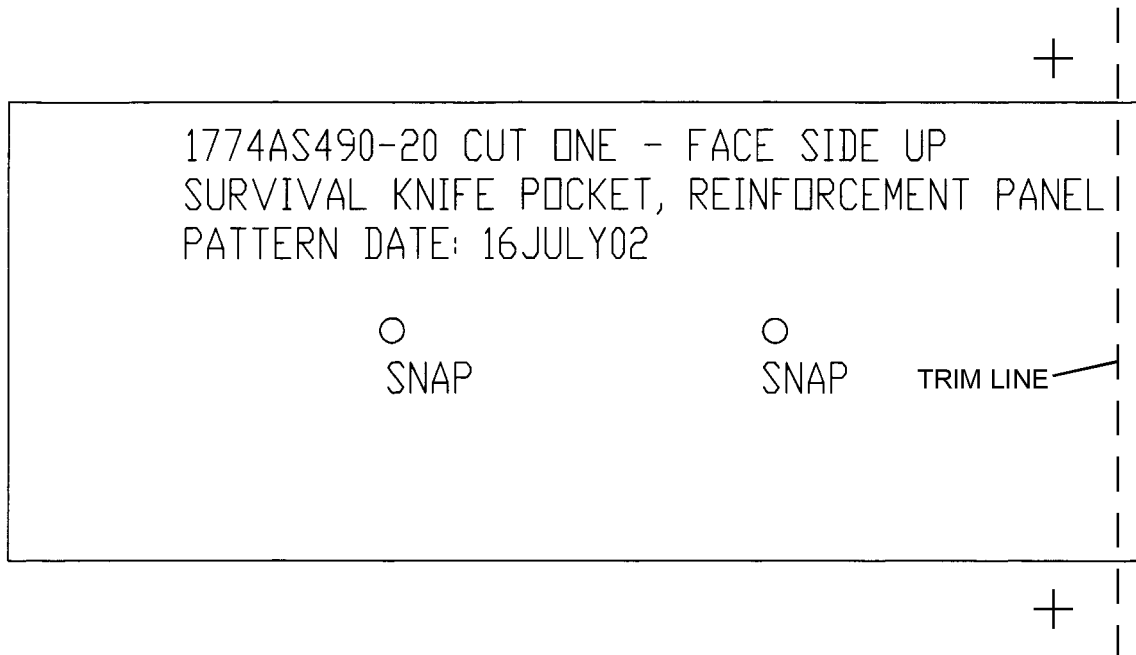


Figure 6-34P. Survival Knife Pocket Main Panel Pattern (Sheet 4 of 4)

06034p04

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

06034q01

Figure 6-34Q. Survival Knife Pocket Reinforcement Panel Pattern (Sheet 1 of 2)

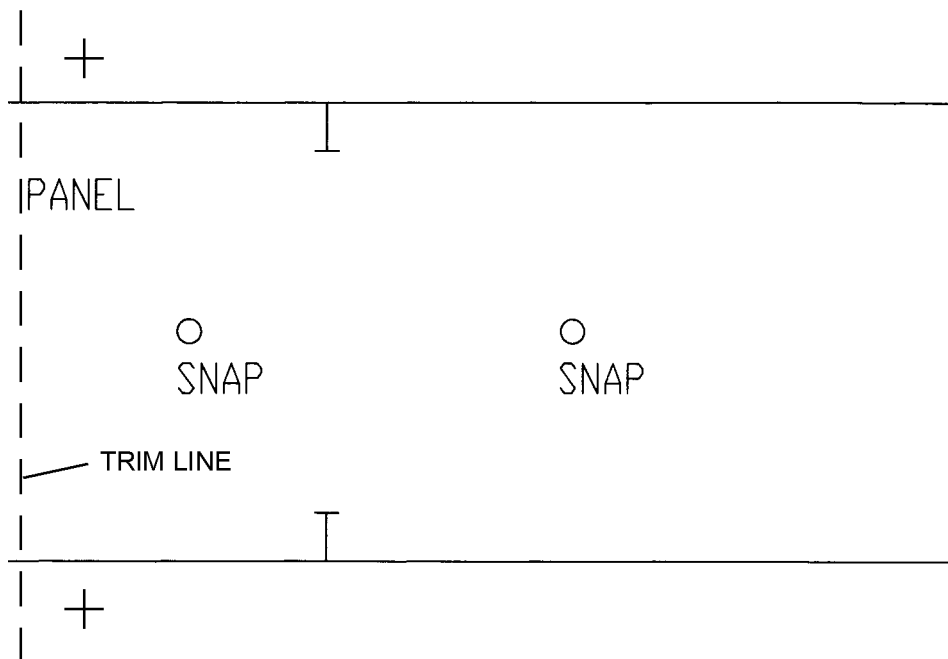
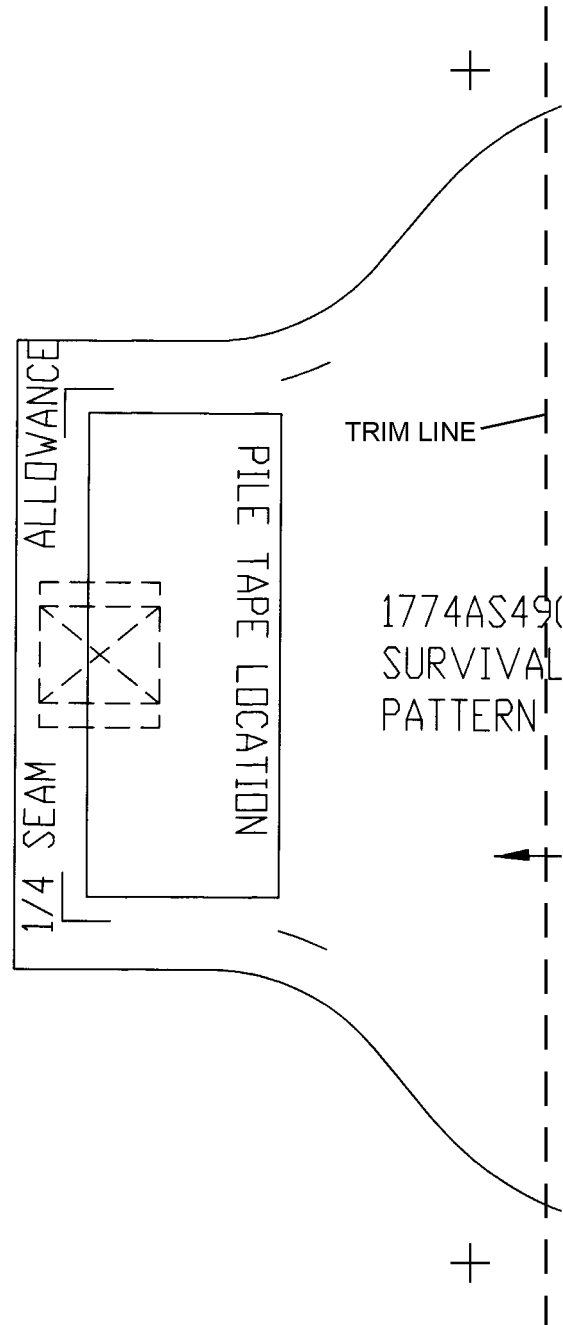


Figure 6-34Q. Survival Knife Pocket Reinforcement Panel Pattern (Sheet 2 of 2)

06034q02

NOTE: Procedures for the construction of the pattern.

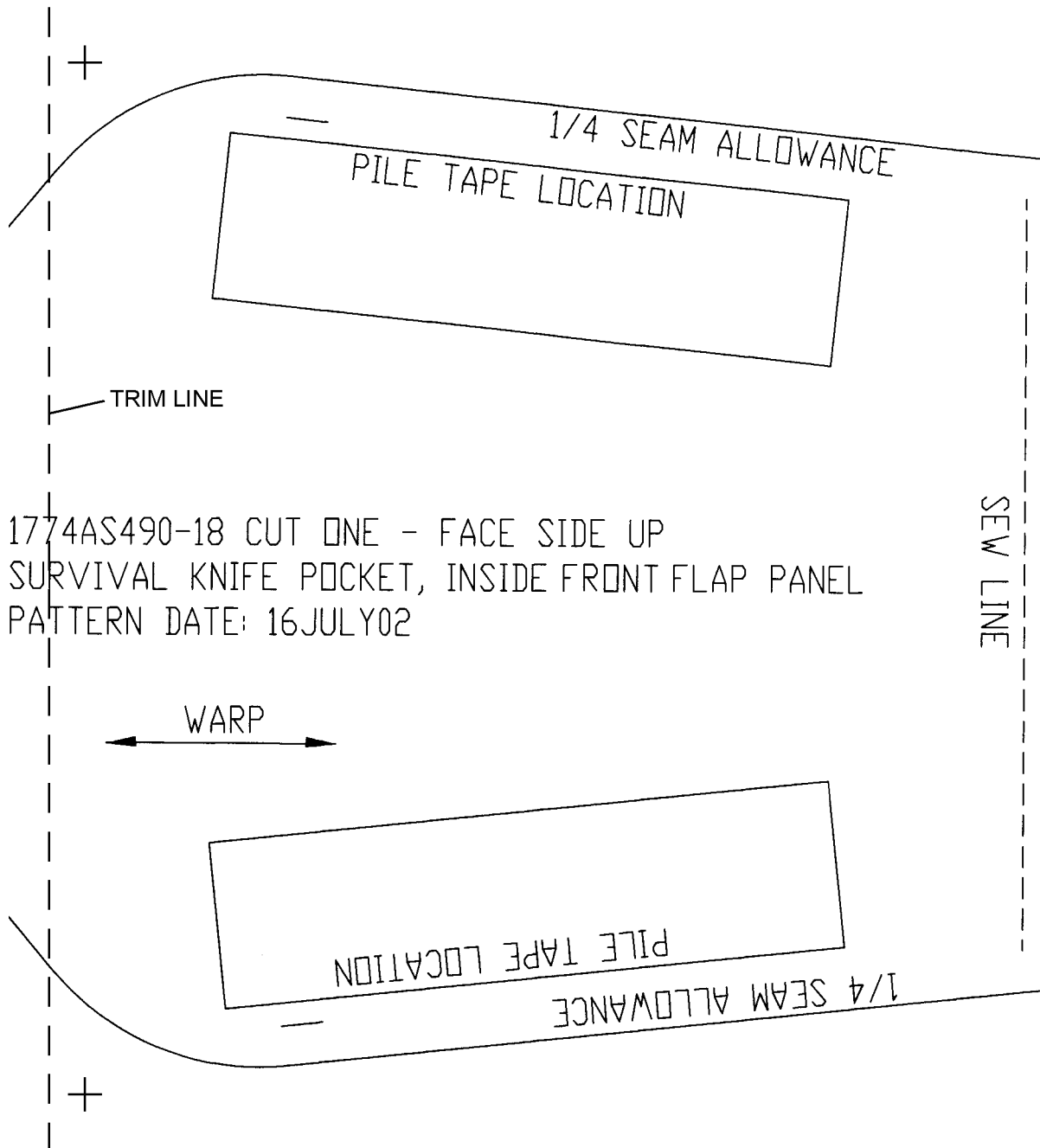
1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

06034r01

Figure 6-34R. Survival Knife Pocket Inside Front Flap Panel Pattern (Sheet 1 of 2)



06034r02

Figure 6-34R. Survival Knife Pocket Inside Front Flap Panel Pattern (Sheet 2 of 2)

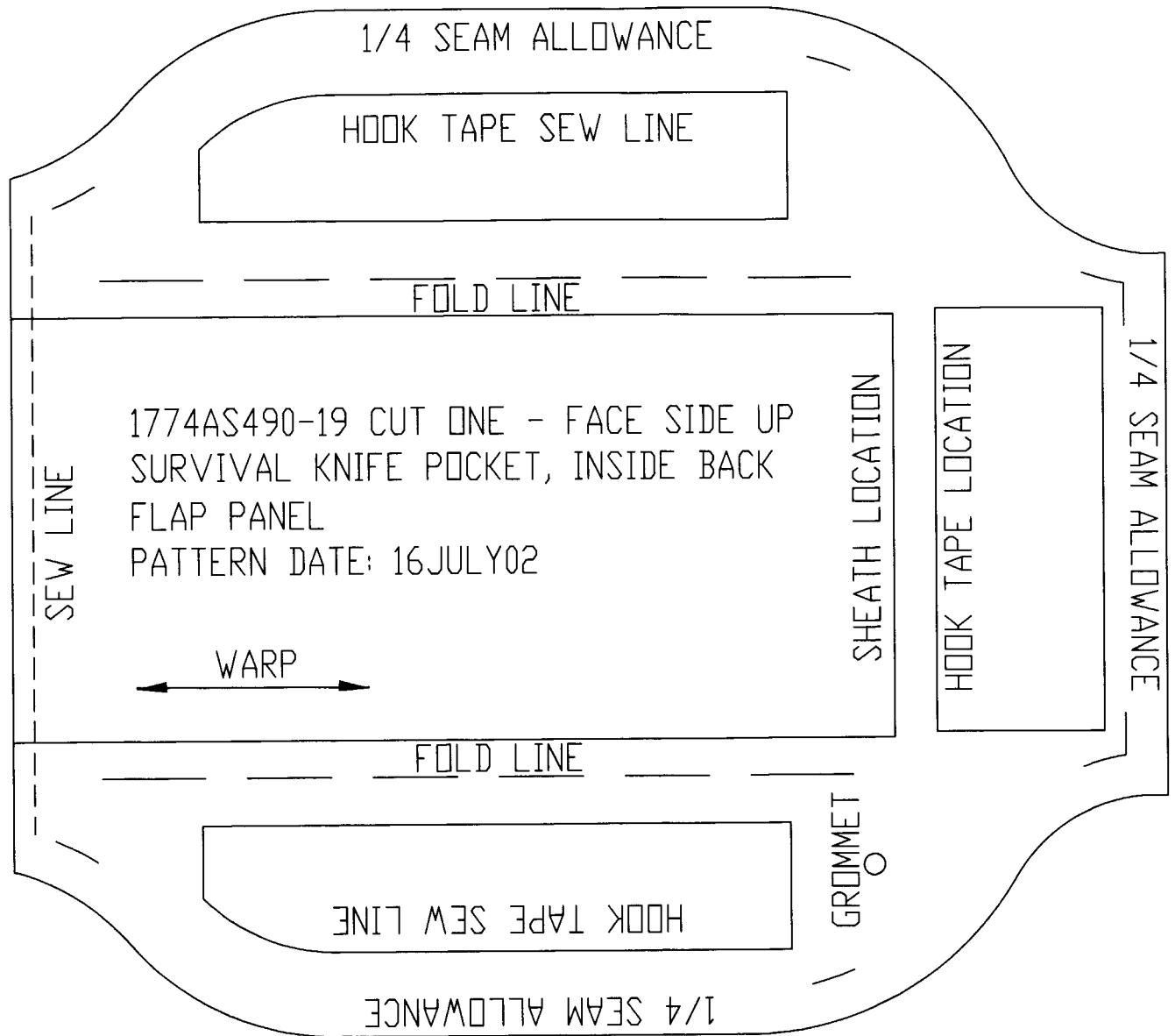


Figure 6-34S. Survival Knife Pocket Inside Back Flap Panel Pattern

006034s

6-67G Fabrication of Pusher Fan Pocket (Figure 6-34T)

NOTE

Identify inside and outside of panels when marking and sewing.

1. Identify pusher fan main panel pattern (figure 6-34U), pusher fan side panel pattern (figure 6-34V), receiving bracket panel pattern (figure 6-34W) and pusher fan inlet reinforcement panel pattern (figure 6-34X). When making reinforcement panel pattern, cut out sew line circle.

2. Lay main side and reinforcement panel patterns on nylon fabric, mark all alignment points, slide fastener area, fold lines and cut out. Lay receiving bracket panel pattern onto Herculite fabric and cut two pieces out.

3. Position side panel with outside up and place reinforcement panel on top. Align marks together and sew opening hole to side panel using two rows of stitching side by side on circle sew line.

4. Cut out center of circle, stay 1/8 inch inside of stitched line, tuck reinforcement panel fabric through opening. Completely flatten fabric against inside side panel. Sew outside circumference of circle using two rows of stitches 1/8 inch and 3/8 inch from folded edge.

5. On the outside, ensure battery pocket alignment points are visible and set panel aside for final assembly.

6. Position main panel with inside face up, at marks indicated, position slide fastener tape with pull tab down. With top stops 3/8 inch from edge of fabric, sew 9 1/4-inch slide fastener in place. Flip panel over, cut and sew entrance area fabric in place.

7. To fabricate slide fastener, proceed as follows:

a. Lay out slider (NIIN 00-252-5398) with Slider Fastener closed, measure from top stops-down 9 1/4 inch and mark for teeth length.

b. Measure another 1 inch for tape length. Cut tape at this mark and remove teeth within the 1-inch measurement.

c. Install bottom stop at bottom of tooth length.

8. Return main panel to inside face up position. Place receiving bracket panel at location shown and sew in place using 2 rows of stitching 1/8 inch and 3/8 inch in from outside cut edges. Punch cut holes for bracket rivets.

9. On main panel, at lines indicated, sew front and backsides of fabric to slide fastener gusset, using two rows of stitches side by side.

10. With main panel inside face down, position side panel outside down on top at marks indicated.

Sew the panels together matching alignment marks with 2 rows of stitches side by side 3/8 inch from cut edge and 3/8 inch from ends of side panel. Hem opening edges by turning fabric under 3/8 inch and stitch 1/4 inch from folded edge.

11. If not done, manufacture battery pocket as per instructions.

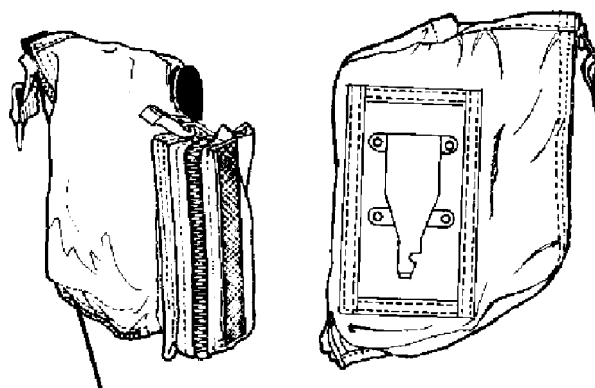
12. Turn completed pusher fan pocket right side in. Position battery pocket at marks on side panel. Ensure alignment for proper position of the battery pocket and that fabric is flat while sewing. Stitch battery pocket to panel using 1 row of stitches 1/4 inch from edge.

13. Position male bracket onto main panel with lock notch opposite the pusher fan opening. Set rivets through bracket, pocket fabric and inside supports. Ensure finished rivets have no sharp edges.

14. Install bracket into receiver to ensure proper fit.

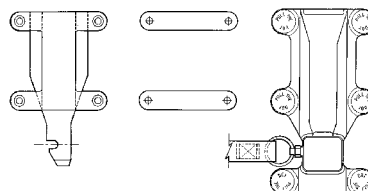
15. If needed, cut 14 1/2-inch length of 1/2 inch wide tape (figure 6-34X1). Slide tape through ring of pull pin and fold in half onto itself. Fold free end 3/8 inch 2 times, sew in place using 3 rows of stitches side by side centered.

16. Position pusher fan pocket and receiver bracket on CMU-23 as described by ACC 616.



1774AS401

PUSHER FAN
BACKING PLATE
1774AS409-3



PUSHER FAN
ATTACHMENT
BRACKET
1774AS409-1

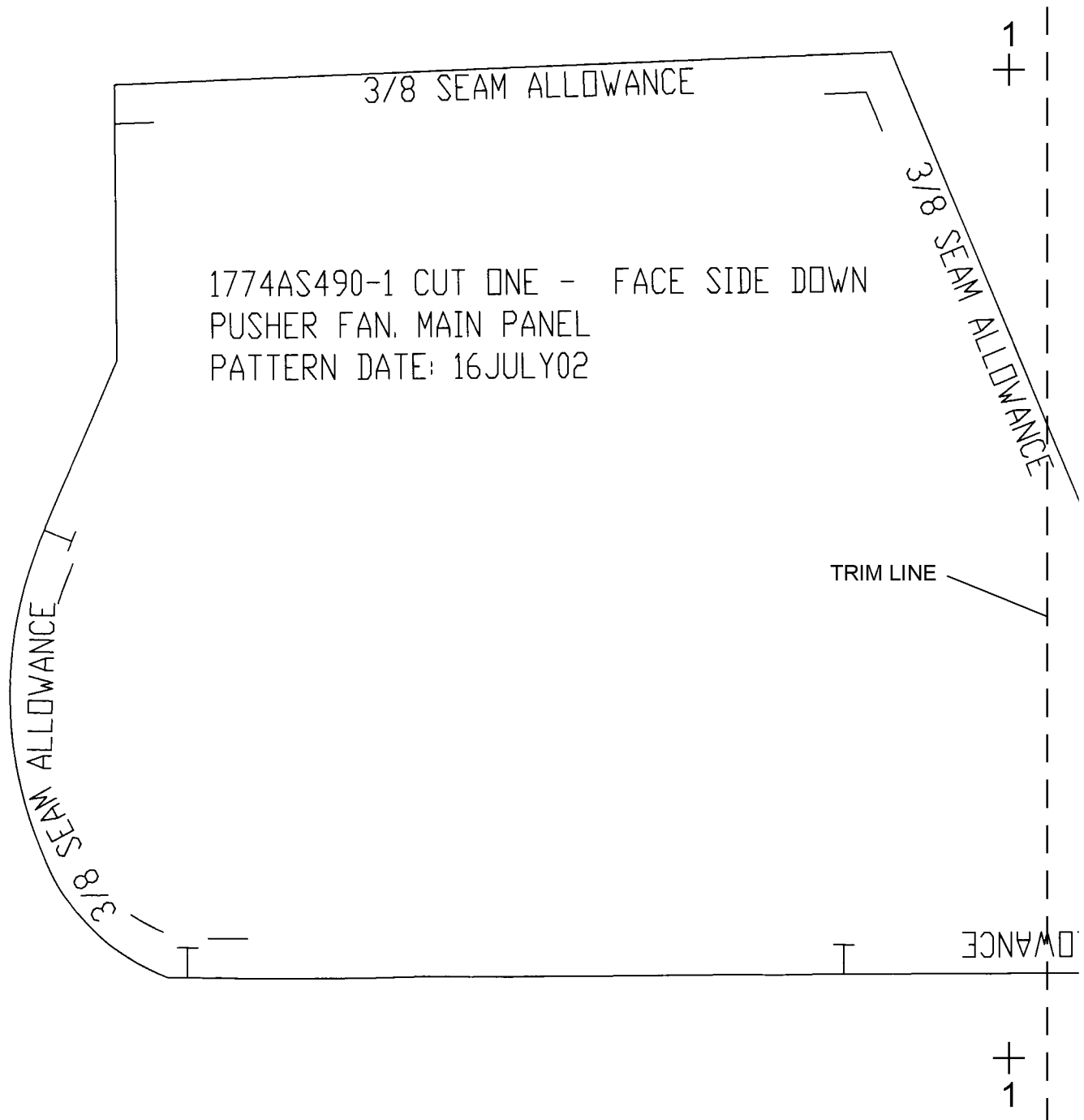
PUSHER FAN
RECEIVING
BRACKET
1774AS409-2

006034t

Figure 6-34T. Pusher Fan Pocket (with Battery Pocket and Mounting Bracket)

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34U. Pusher Fan Main Panel Pattern (Sheet 1 of 4)

06034u01

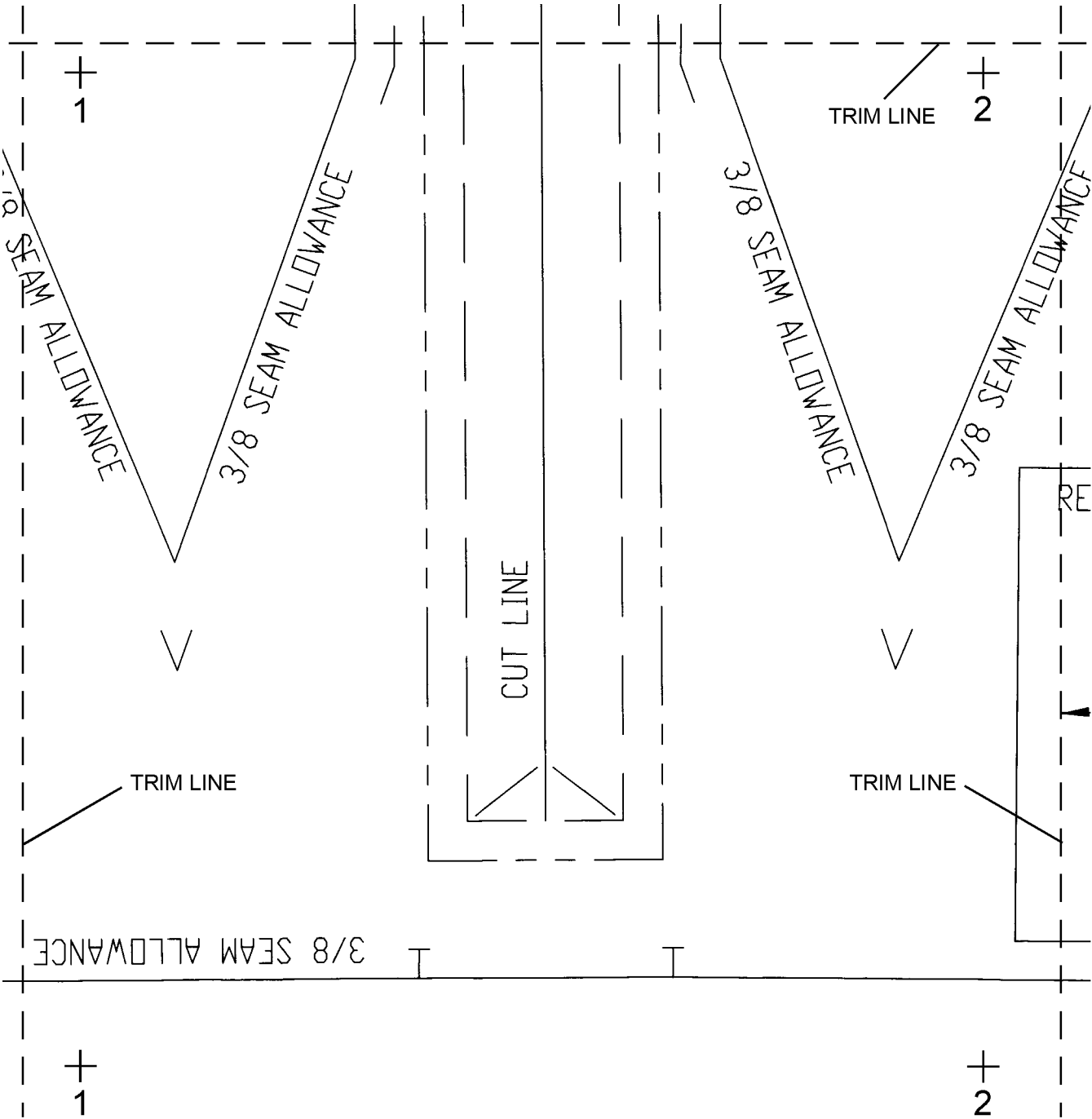


Figure 6-34U. Pusher Fan Main Panel Pattern (Sheet 2 of 4)

06034u02

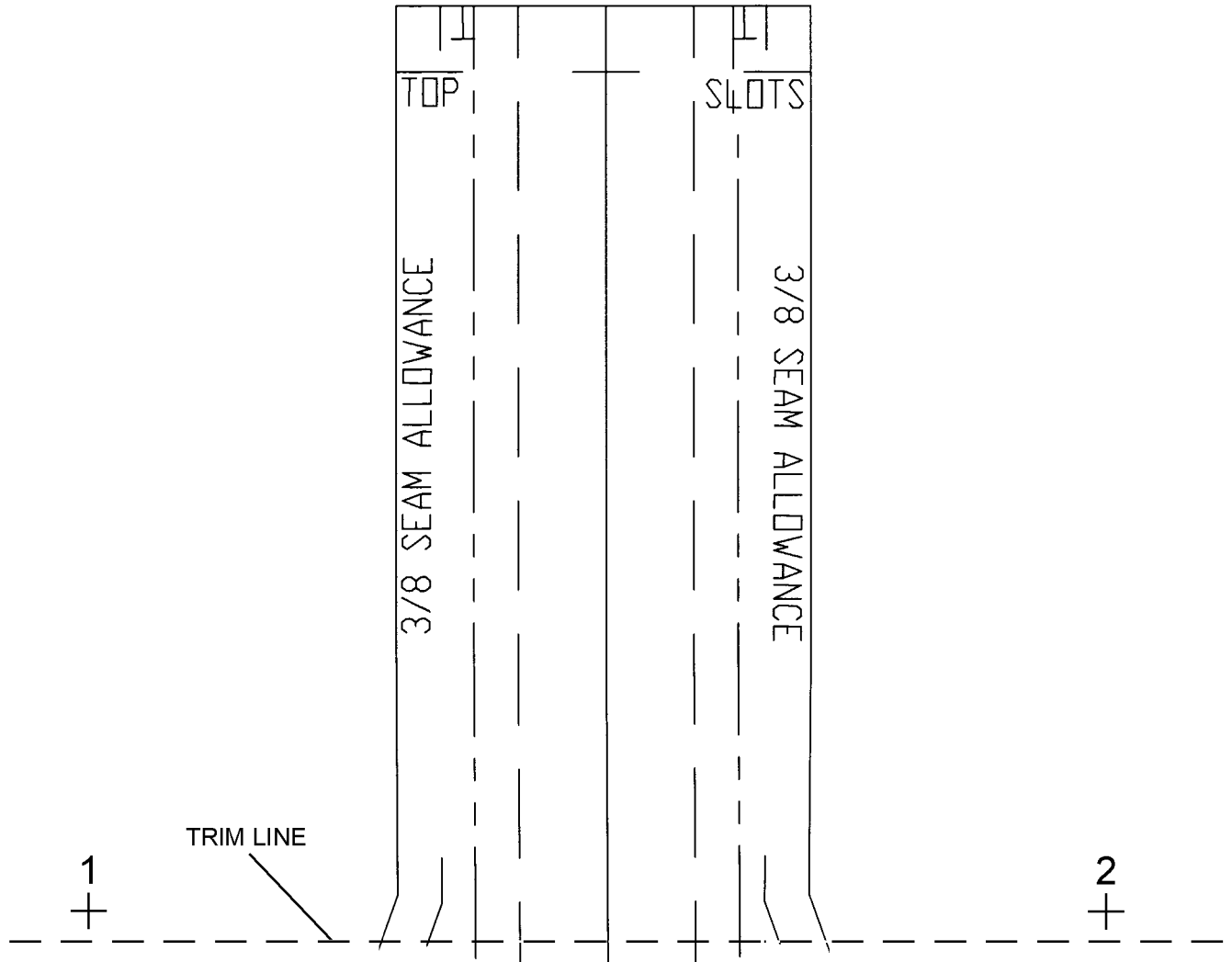


Figure 6-34U. Pusher Fan Main Panel Pattern (Sheet 3 of 4)

06034u03

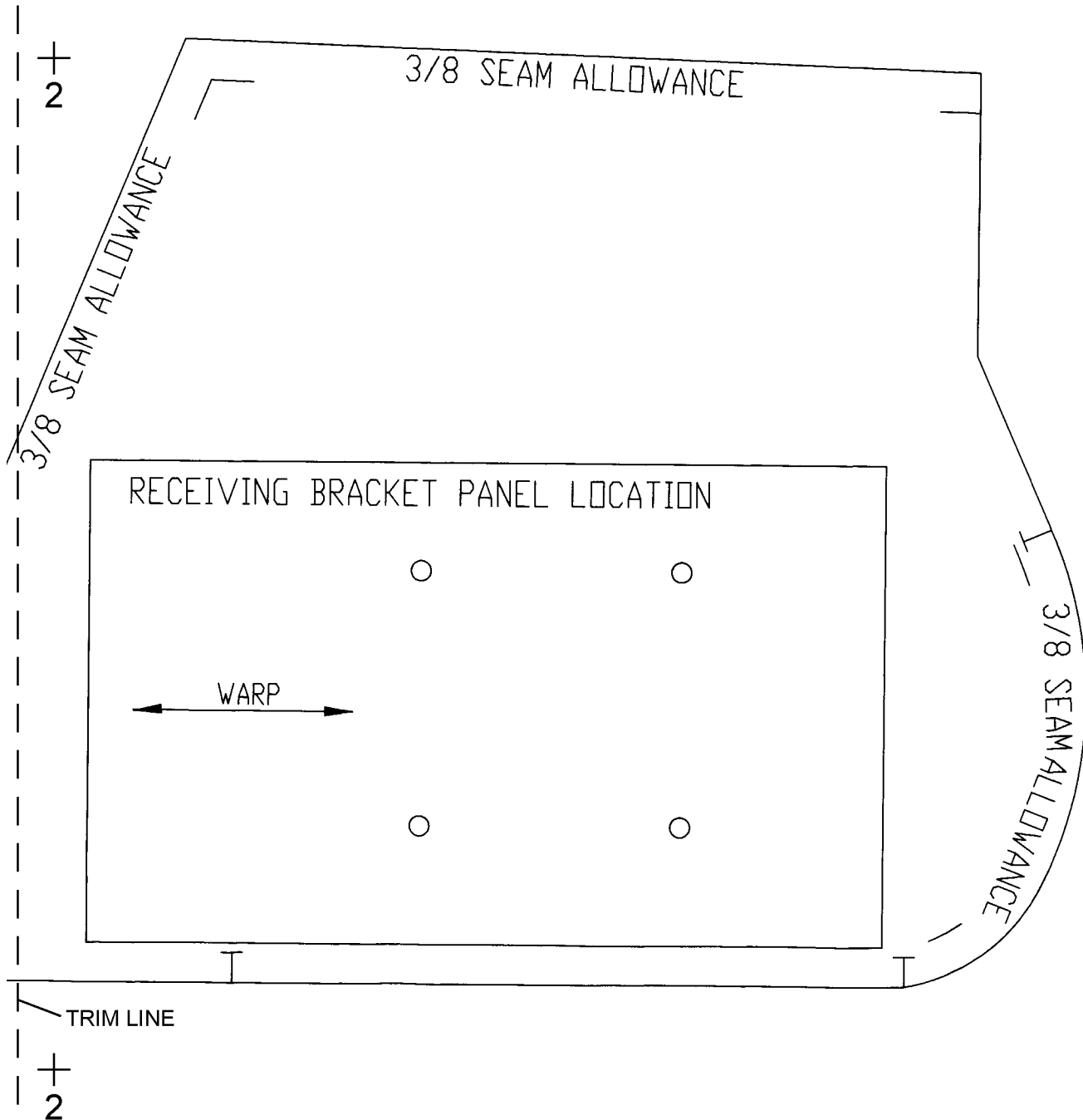
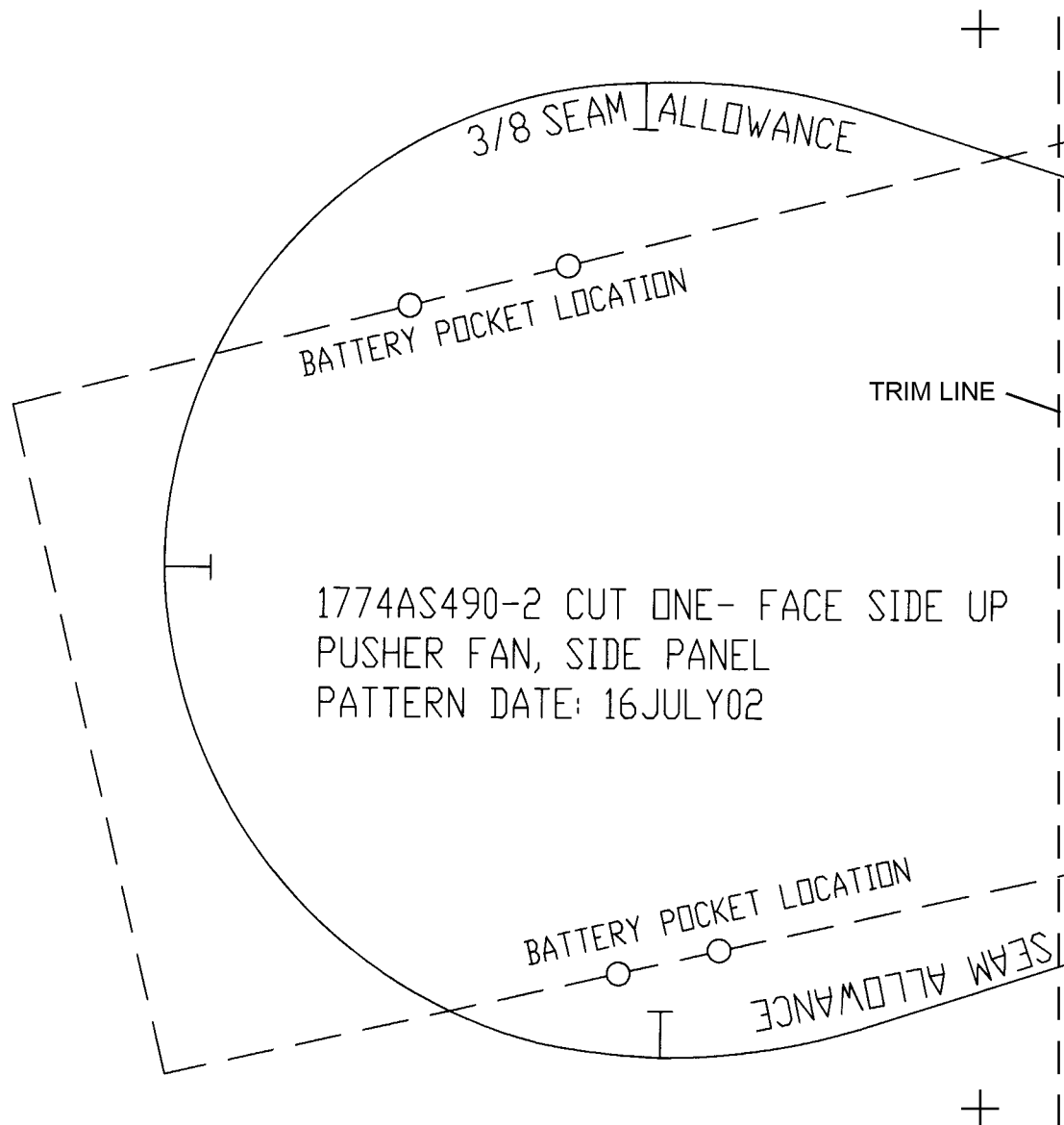


Figure 6-34U. Pusher Fan Main Panel Pattern (Sheet 4 of 4)

06034u04

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34V. Pusher Fan Side Panel Pattern (Sheet 1 of 2)

06034v01

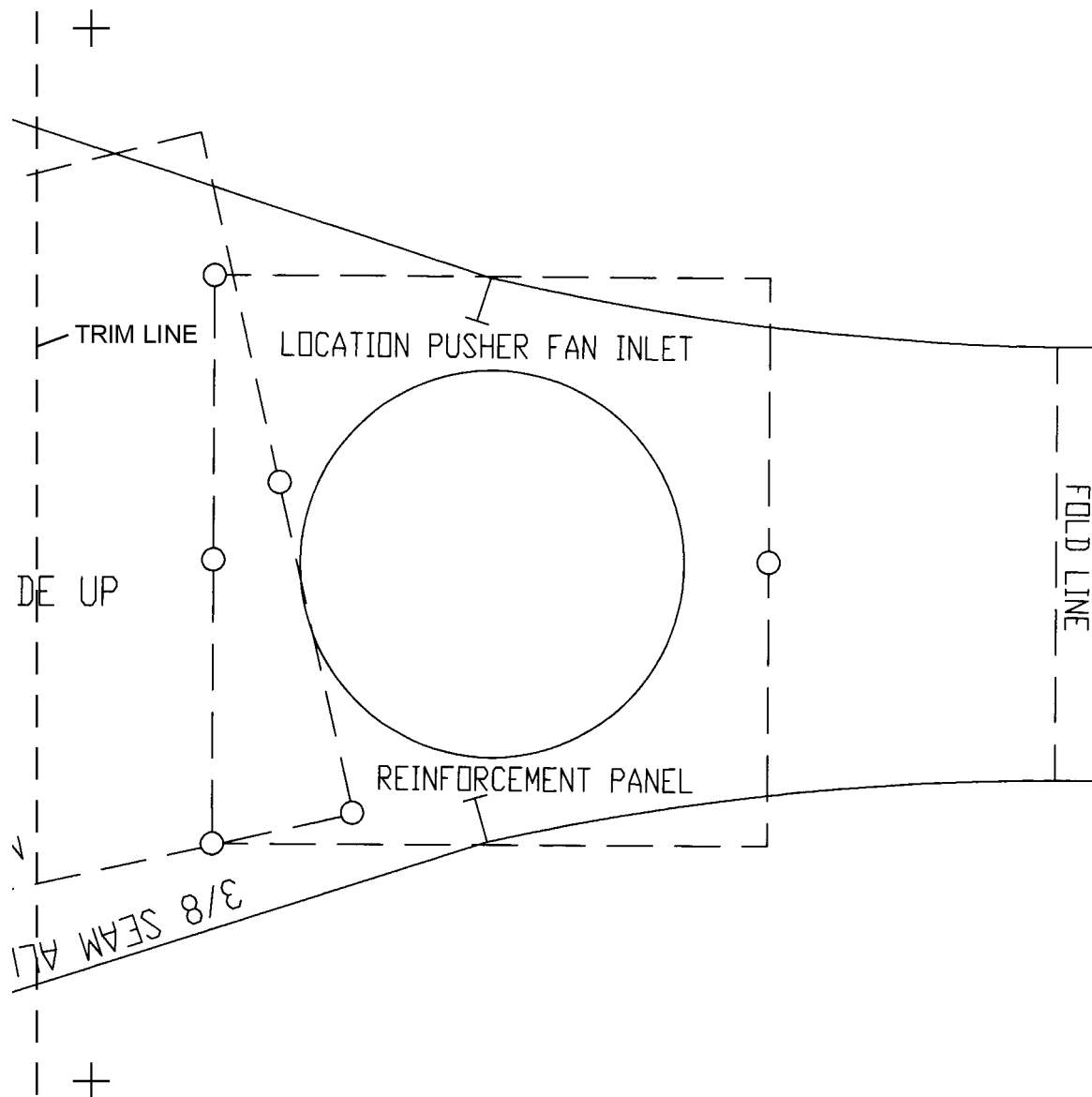
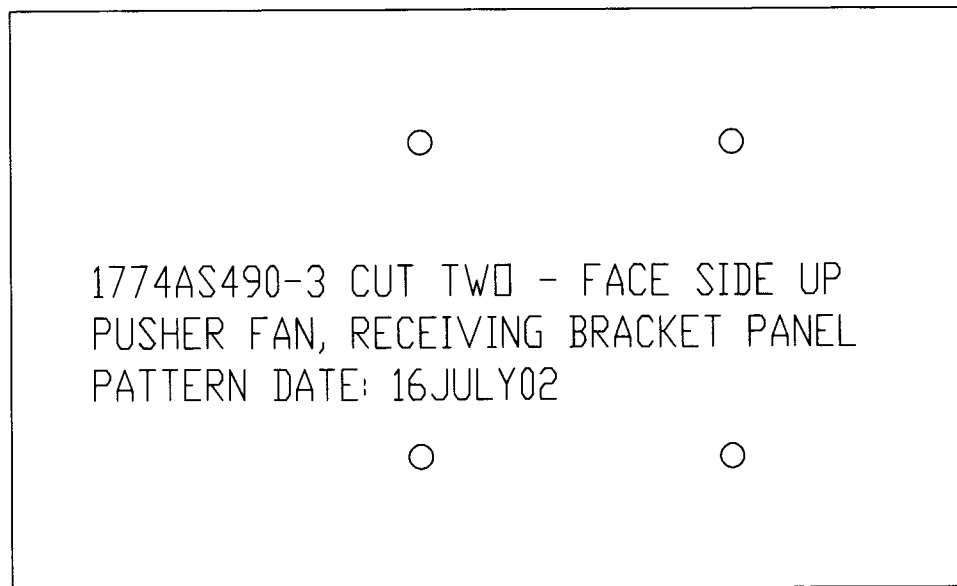
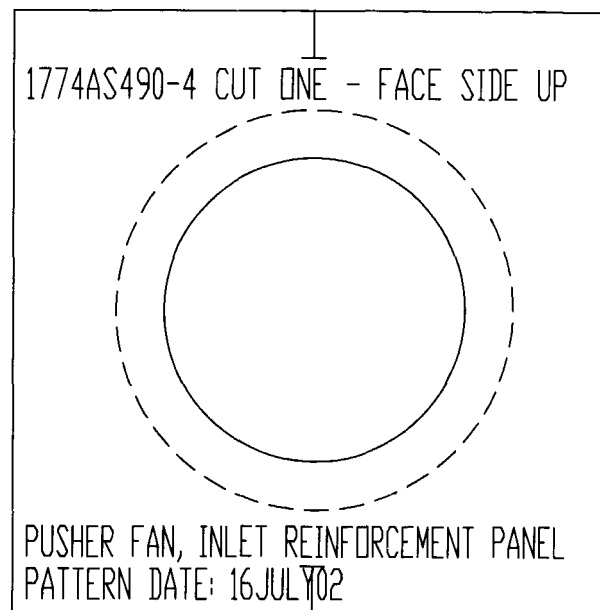


Figure 6-34V. Pusher Fan Side Panel Pattern (Sheet 2 of 2)

06034v02



006034w

Figure 6-34W. Pusher Fan Receiving Bracket Panel Pattern

006034x

Figure 6-34X. Pusher Fan Receiving Bracket Panel Pattern

NAVAIR 13-1-6.7-2

NOTE: Procedures for the construction of the pattern.

1. Print out page.
2. Cut pattern segments apart.
3. Trim all segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
4. Align crosses with adjacent pattern segments and tape in place.
5. After taping, cut out pattern.

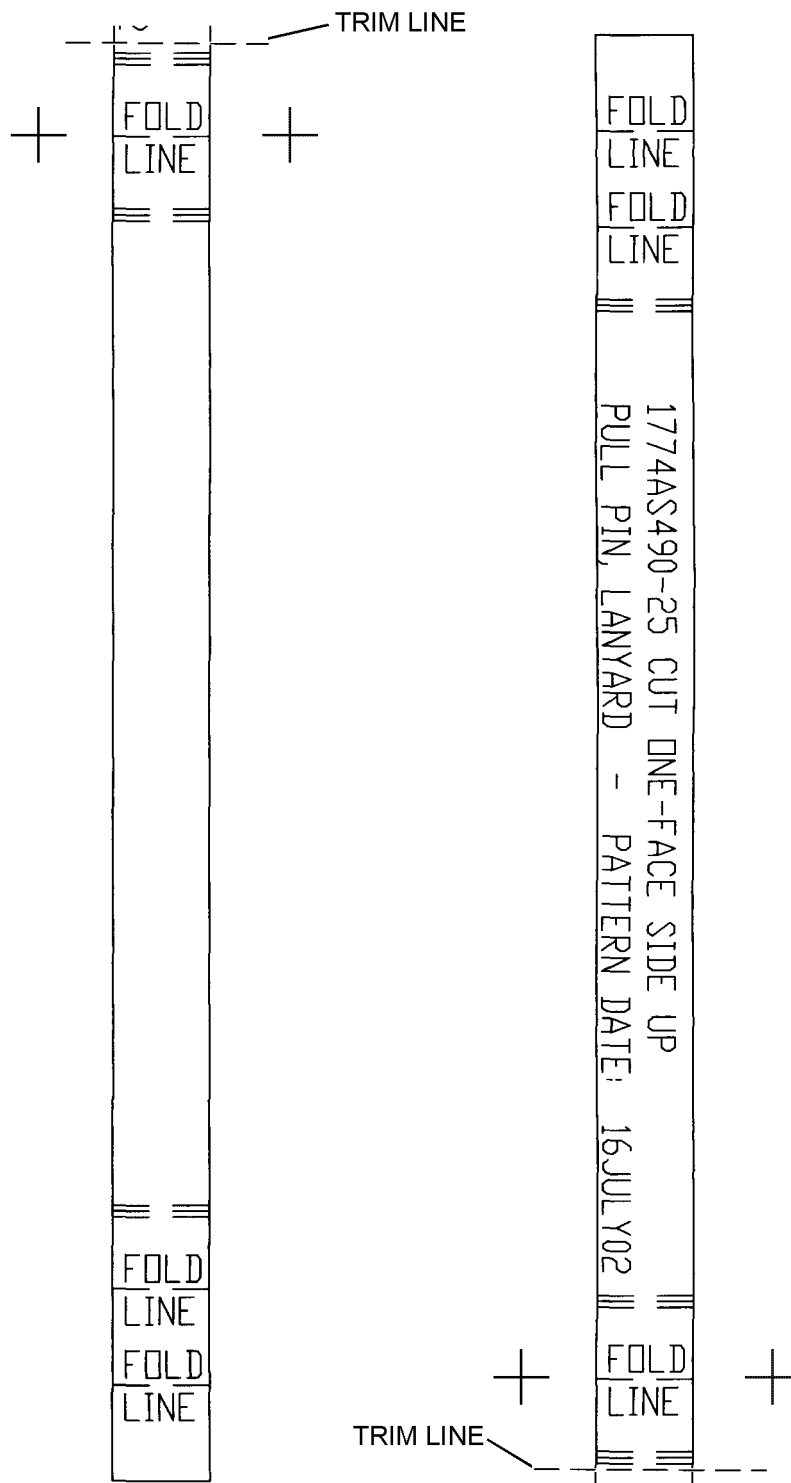


Figure 6-34X1. Pull Pin Lanyard Pattern

06034x1

6-67H. Fabrication of Battery Pocket (Figure 6-34Y)

NOTE

Use existing battery pocket as sample.

1. Identify battery pocket side panel pattern, (figure 6-34Z) battery pocket top back inside panel (figure 6-34AA) and battery pocket front panel (figure 6-34AB).

2. Lay side, back and front panel patterns onto nylon fabric. Mark all sew points, hook tape location, fold line, slide fastener location, and cut out all three panels.

3. Cut one piece of 2-inch hook tape 5 inches long, place on front panel tape location and sew into place.

4. With side panel placed inside up, at location indicated, position slide fastener with pull tab against fabric, and top stops 3/8 inch down from cut edge of panels. Install 7-inch slide fastener in place using one row of stitches. Turn panel over, cut, and sew entrance area fabric of slide fastener in place. Fold hem lines at slide fastener open end and sew in place using 2 rows of stitches, 1/8 inch and 1/4 inch from folded edge. Repeat the same at opposite end of the panel, as shown on pattern.

5. To fabricate slide fastener, proceed as follows:

a. Lay out Slider (NIIN 00-252-5398) with Slider Fastener closed measure from top stops-down 7 inches and mark for teeth length.

b. Measure another 1 inch for tape length. Cut tape at this mark and remove teeth within the 1-inch measurement.

c. Install bottom stop at bottom of tooth length.

6. Place front panel with hook tape up and to the left. Place side panel with the closed end of slide fastener hemmed edge fabric up, pull slider down,

slide pull-tab down, and hemmed edge at location shown on front panel. Once in place, sew together, using one row of stitches 3/8 inch from edge around all three sides.

7. Turn panels right side out. Fold unsewn edge of panel onto itself and sew into place using 2 rows of stitches 1/8 inch and 1/4 inch from folded edge. Panels should match when sewn together.

8. Position back panel with inside face up. Lay side panel on top, with slider pull up and non-slide fastener hemmed end at location to the upper right corner of back panel.

9. Sew side panel to back panel with stitching to the inside edge of the back panel, leaving 3/8 inch exposed, sew edge, this is done for ease sew binding tape. Cut side panel corners 1/8 inch so that sew edge corner fabric will lay flat.

10. Using 1-inch tape, sew binding tape to all four sides, using 2 rows of stitches 1/8 inch and 3/8 inch from folded edges.

11. Cut 7 feet of 1/2-inch Type III tape. Pass tape through eye of slider pull-tab and fold in half onto itself. Slide one bead over end, fold end over 3/8 inch 2 times and sew end in place using 3 rows of stitches side by side centered.

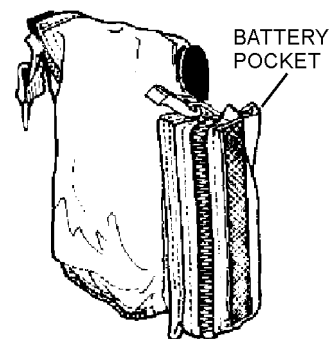
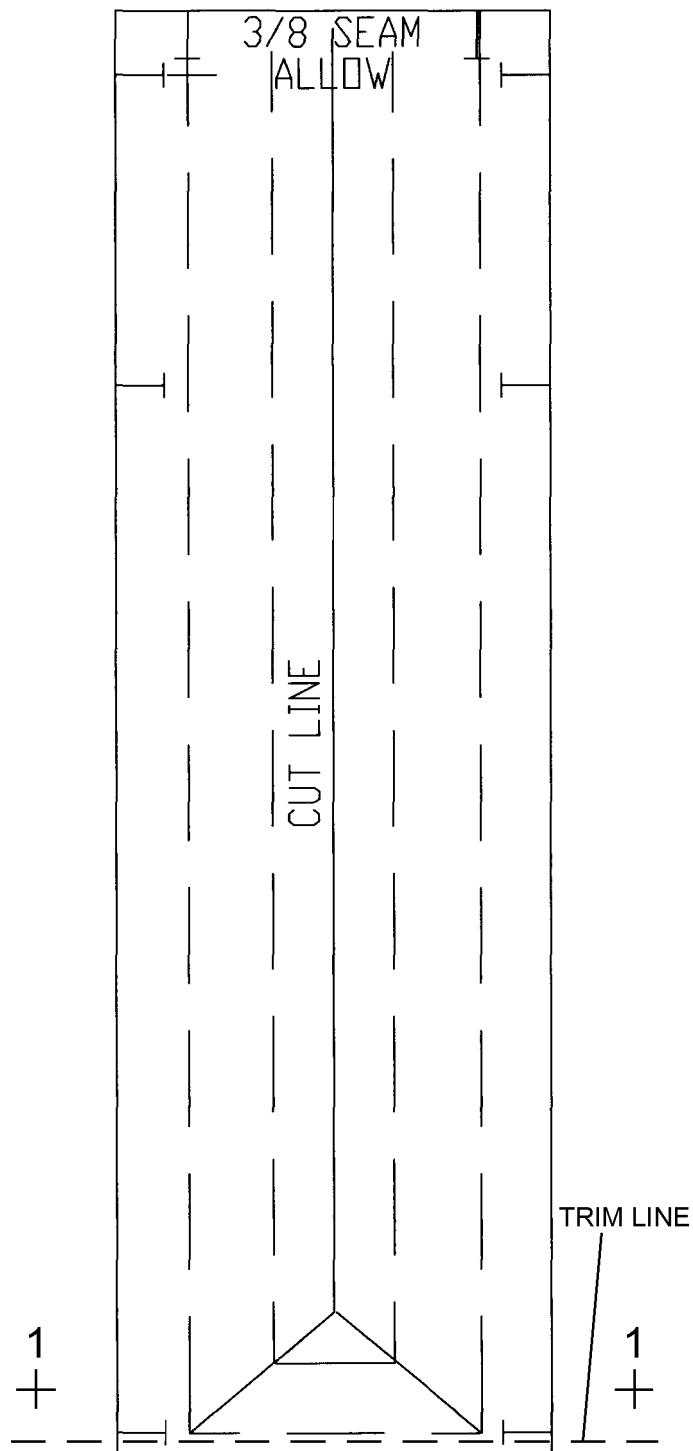


Figure 6-34Y. Battery Pocket

006034y

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34Z. Battery Pocket Side Panel Pattern (Sheet 1 of 3)

06034z01

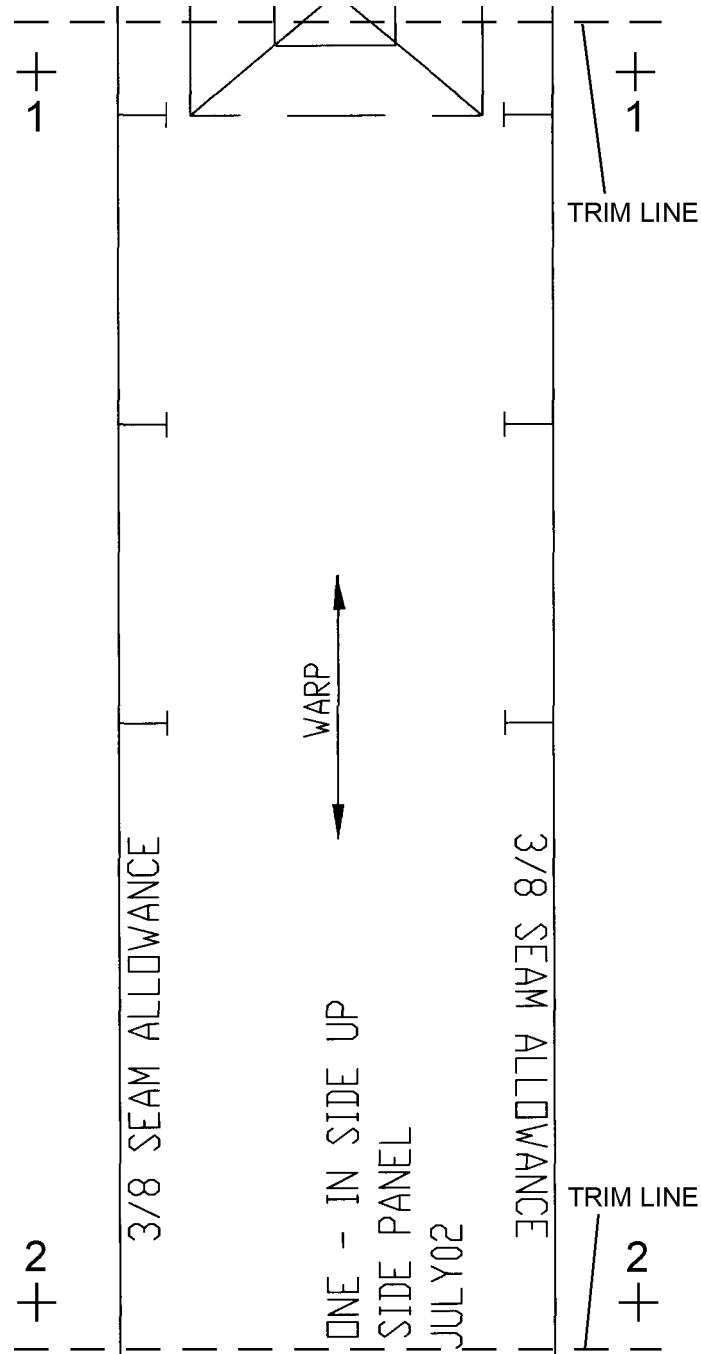


Figure 6-34Z. Battery Pocket Side Panel Pattern (Sheet 2 of 3)

06034z02

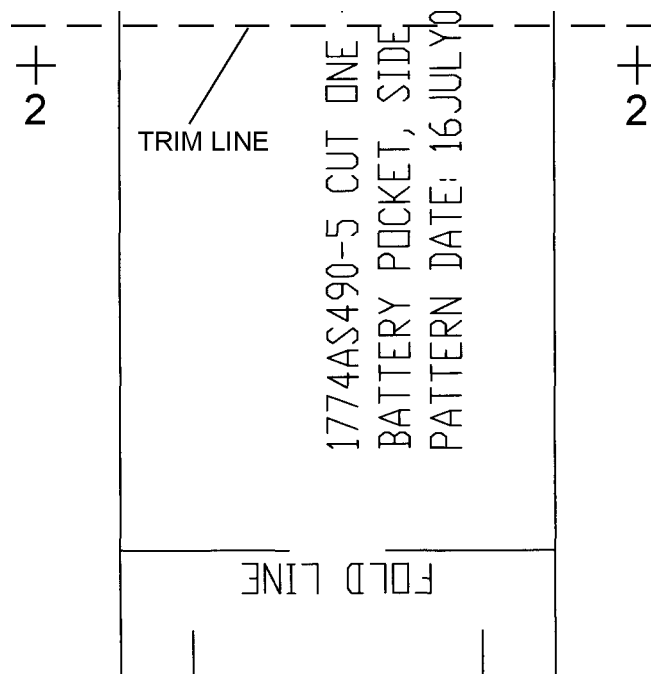


Figure 6-34Z. Battery Pocket Side Panel Pattern (Sheet 3 of 3)

06034z03

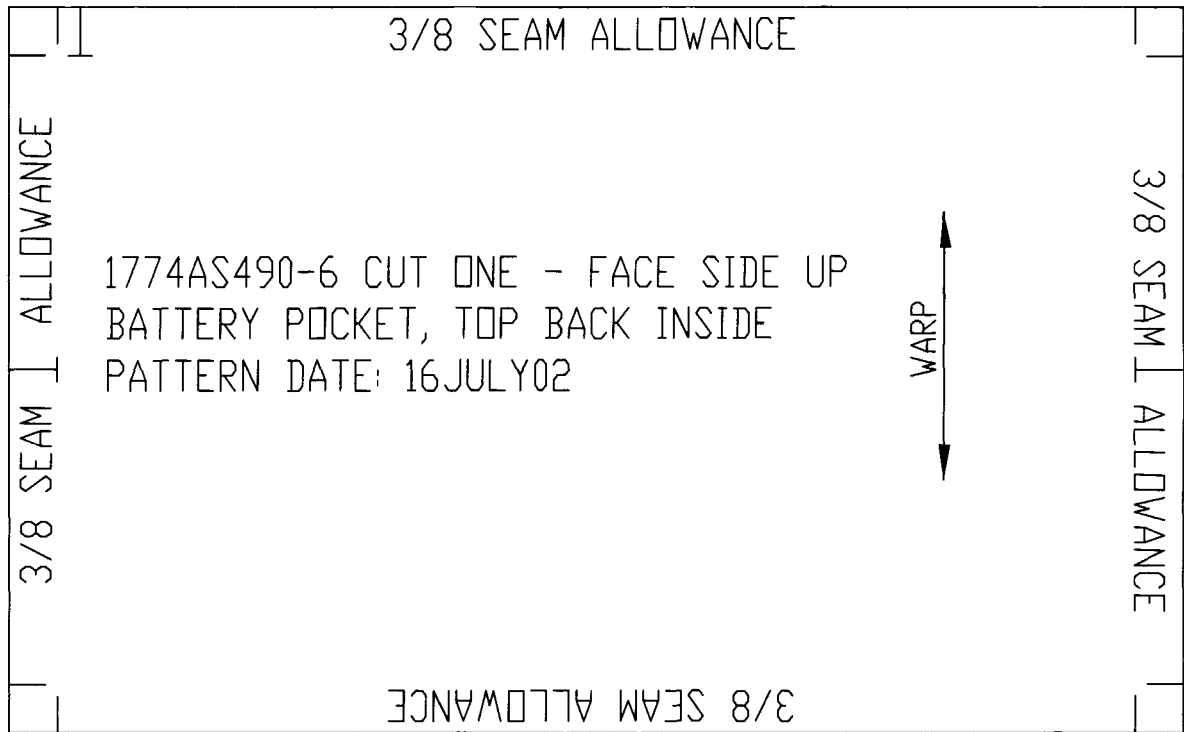


Figure 6-34AA. Battery Pocket Top Back Inside Pattern

006034aa

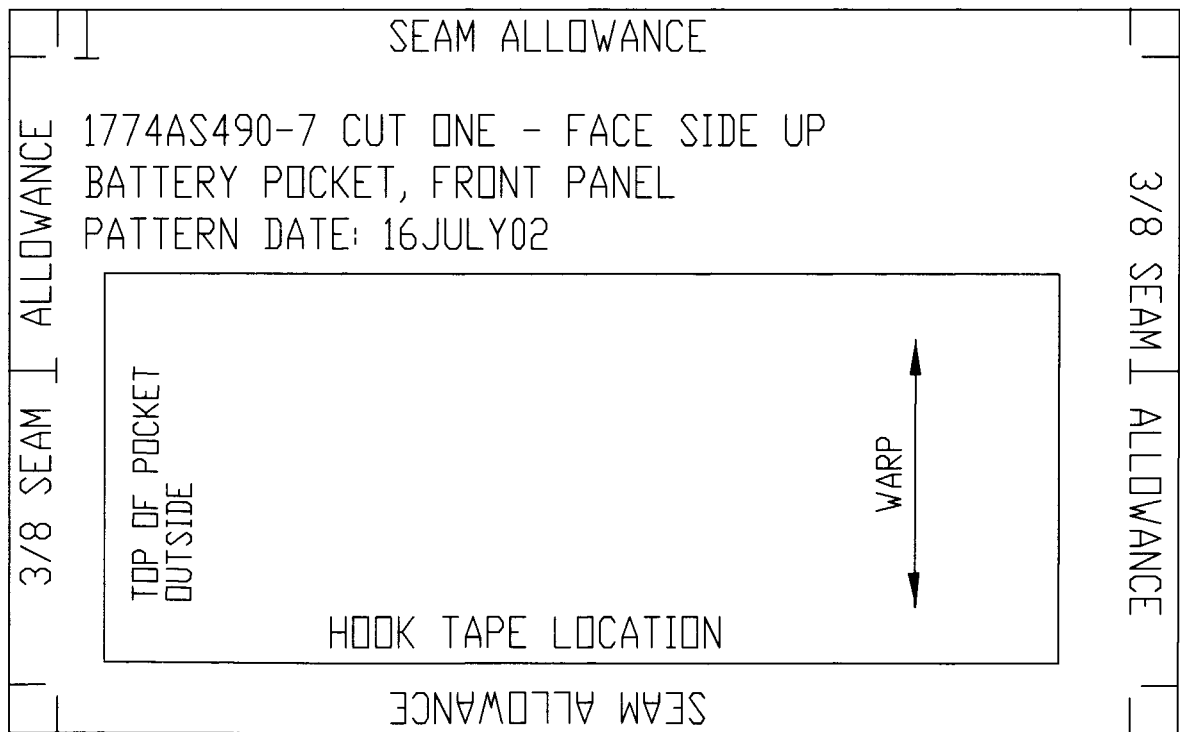


Figure 6-34AB. Battery Pocket Front Panel Pattern

006034ab

6-87J. Fabrication of SRU-36 HEED Bottle Pocket (Figure 6-34AC)

NOTE

Place all patterns to the fabric warp direction. Patterns are labeled front and back.

1. HEED Pocket Main Panel.

a. Lay HEED pocket main panel pattern (figure 6-34AD) with front side face down on nylon fabric. mark outside cut lines, all tape placement, all alignment fold lines, alignment sew lines, and cut out.

b. Lay HEED pocket reinforcement panel pattern (figure 6-34AE) on Herculite fabric, mark cut out lines, and cut out. Place reinforcement panel onto main panel and sew in position. At top of panel, fold fabric 1/4 inch and hem.

c. With main panel facing up and reinforcement panel down, lay main panel pattern on panel and mark hook tapes positions. Ensure row of 4 snaps are to the right side of the panel.

d. Cut 2 pieces of 2-inch hook tape, one 7 inches long and one 5 inches long. Sew hook tapes in place onto locations shown on main panel.

e. Lay main panel pattern on hook tape, mark snap locations on hook tape, and punch cut holes needed. Place stud MS27983-4 on hook side and set in place with eyelet MS27983-4.

f. Lay main panel with reinforcement up, fold bottom corners together on each side, using one row of stitches and 3/8 inches from edge, sew sides of bottom to form the bottom main pocket.

g. Cut one piece of 1-inch elastic tape 4 1/2 inches long, with the hemmed top edge up, sew ends of elastic in place 1/8 inches down from top edge of pocket, (stretched from side to side).

h. Fold the edge over 1 1/4 inches onto itself. When stretched, sew in place using one row of stitches on folded edge and one row at bottom of fold. Once done, put aside for final assembly.

2. HEED Pocket Support Panel.

a. Lay HEED pocket support panel pattern (figure 6-34AF) on nylon fabric with front pattern facing up, mark cutout lines, ensure stiffener panel sew edge line are shown, cut out.

b. Lay HEED pocket snap panel stiffener panel pattern (figure 6-34AG) onto Herculite fabric, mark cutout lines, snap installation holes and cut out. Place snap panel stiffener onto support panel and sew into place.

c. Turn panel over with stiffener down, place back of support panel pattern onto the panel, ensuring top of panel and pattern match. Mark hook tape position marks, cut one piece of 2-inch hook tape 7 inches long, and sew into place.

d. Lay support panel pattern onto hook tape, mark snap locations on hook tape and punch cut holes of snaps. Place sockets MS27983-1 on the hook tape when installing buttons MS27983-1. Ensure top two lock lugs of sockets are facing towards top of panel, and bottom two lock lugs are towards the bottom.

e. Fold panel at fold line and sew the sides together using one row of stitches. The fold line edge is the top of the support panel.

f. On the top end of support panel, above the first snap opposite the socket, place D-ring with a 2-inch piece of Type IV webbing folded in half around ring, and ring towards folded edge, sew in place using 3 rows of stitches side by side next to ring.

3. Final Assembly of Pocket.

a. Lay support panel out with D-ring down and snap socket up. Position HEED main panel on top with hook and pile tape inboard. Ensuring both sides, bottom and top edge are centered onto support panel. Sew panels together with one row of stitches, and double backstitch top elastic corners.

b. Turn bottle pocket right side out, ensure all support panel seams are completely turned out board. Top stitch support panel edge seams using one row of stitches, stopping at elastic webbing.

c. Install SRU-36 HEED bottle to ensure proper fit.

d. Position HEED pocket on CMU-23 as described by ACC 616.

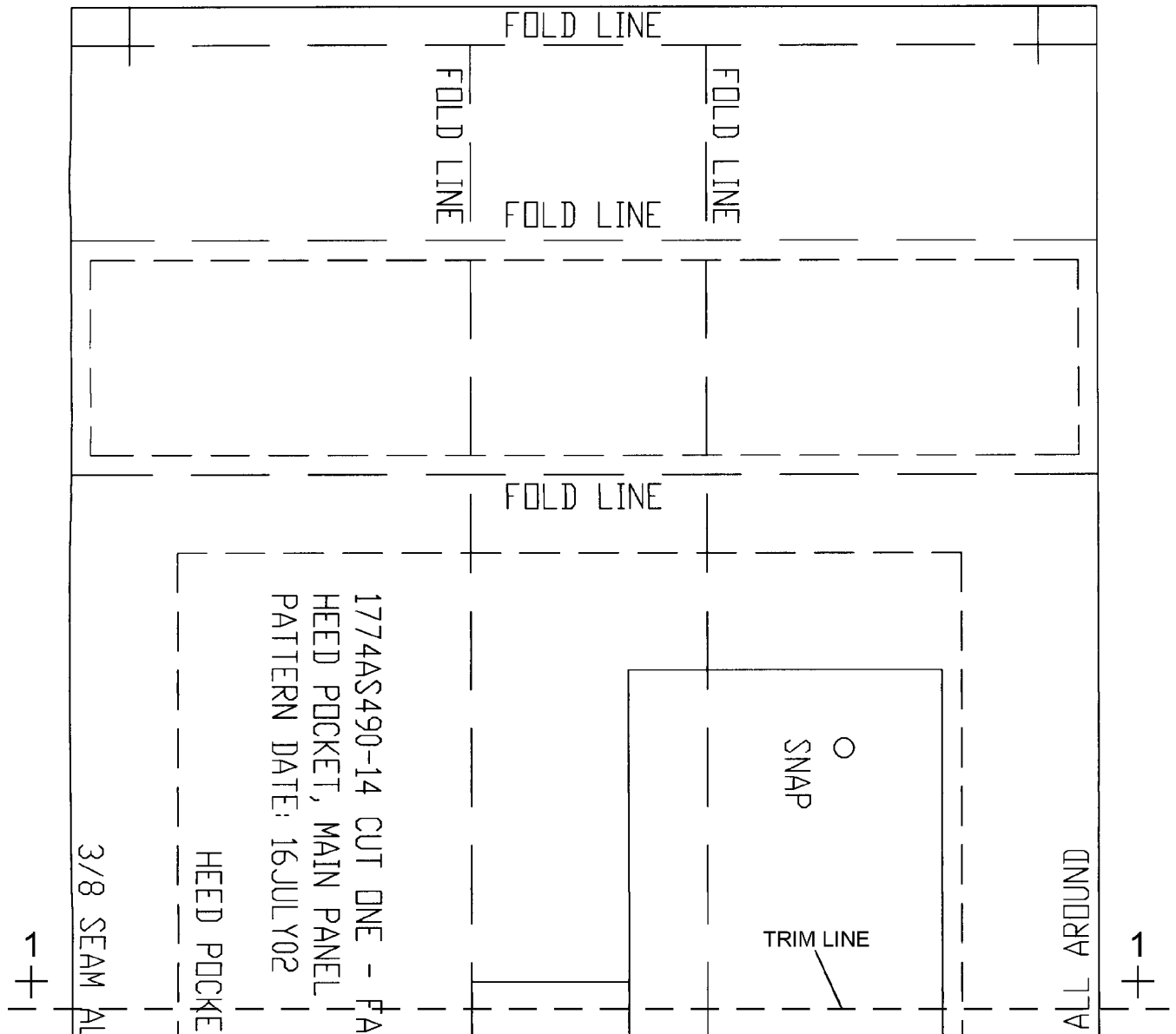


006034ac

Figure 6-34AC. SRU-36 HEED Bottle Pocket

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34AD. HEED Pocket Main Panel Pattern (Sheet 1 of 3)

0634ad01

6-66AZ Change 5

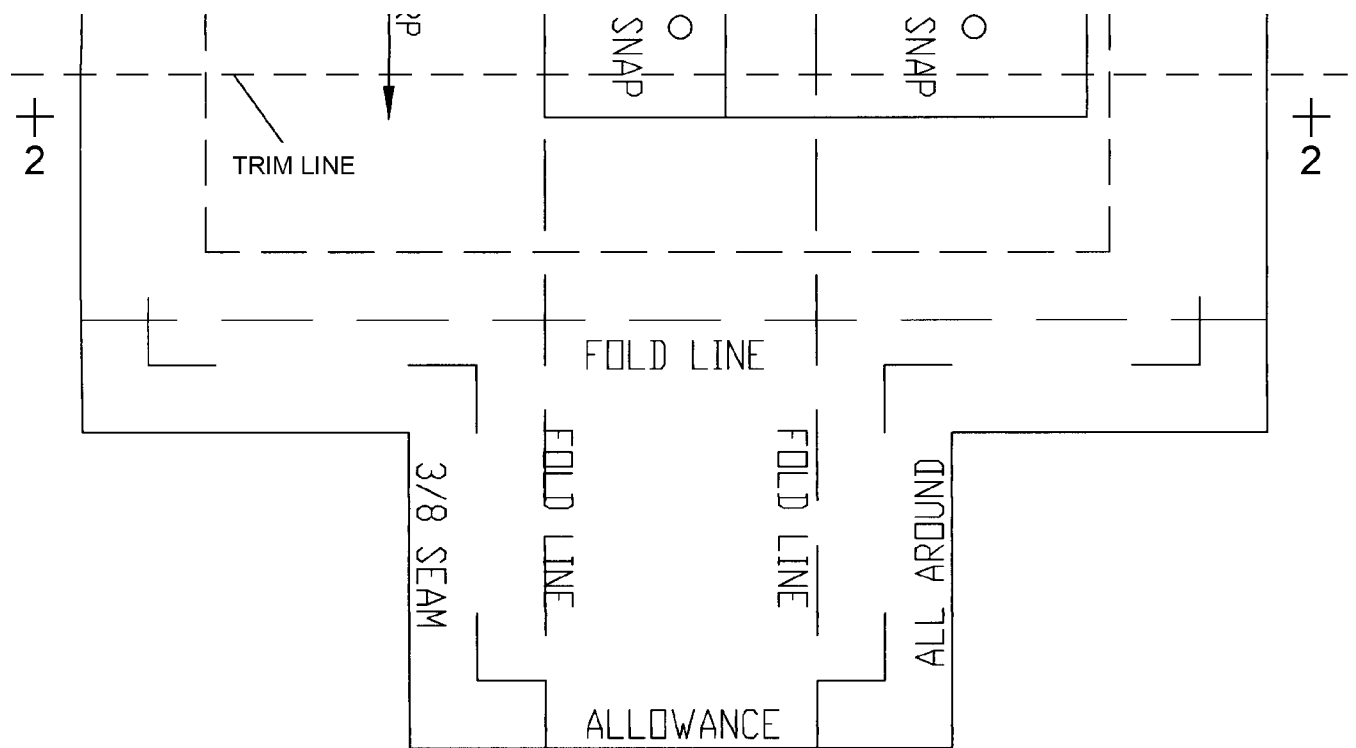
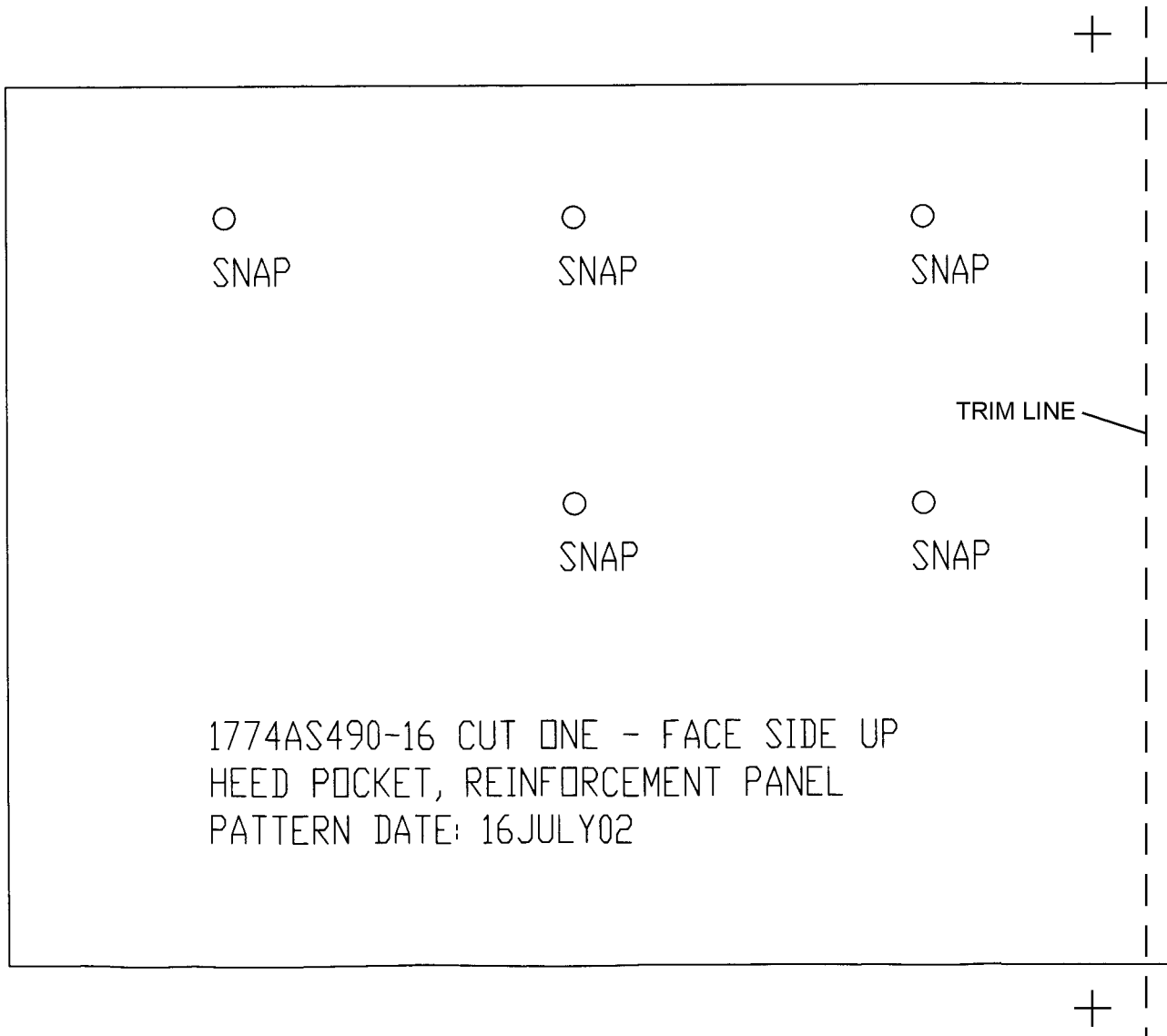


Figure 6-34AD. HEED Pocket Main Panel Pattern (Sheet 3 of 3)

0634ad03

NOTE: Procedures for the construction of the pattern.

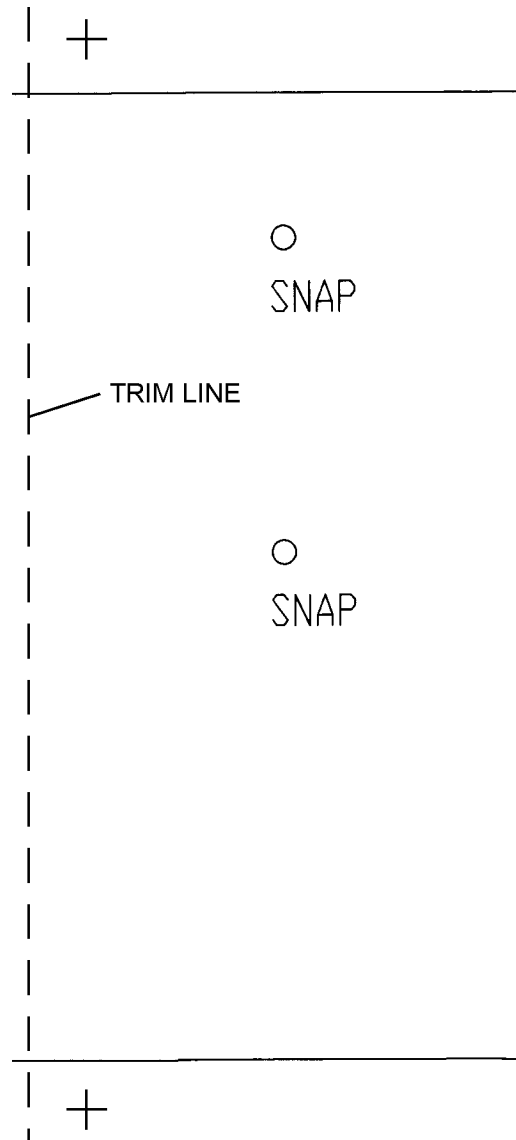
1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34AE. HEED Pocket Reinforcement Panel Pattern (Sheet 1 of 2)

0634ae01



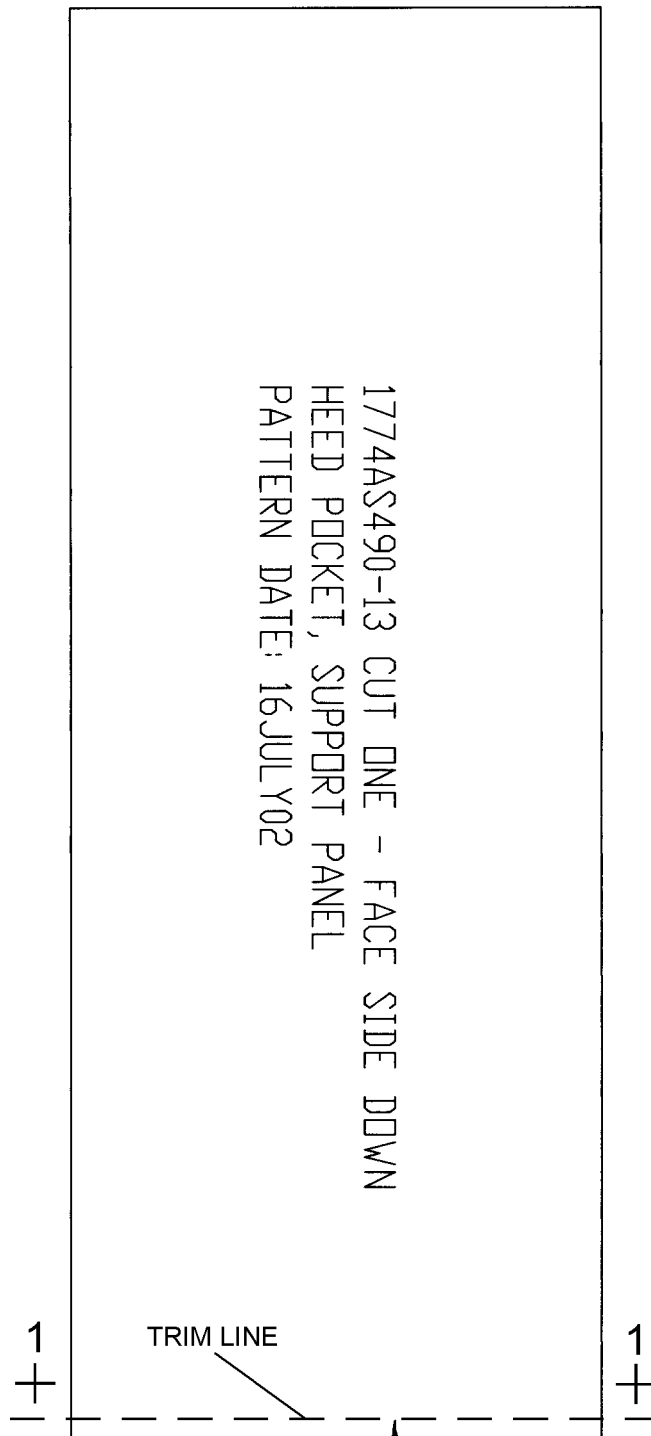
0634ae02

Figure 6-34AE. HEED Pocket Reinforcement Panel Pattern (Sheet 2 of 2)

NAVAIR 13-1-6.7-2

NOTE: Procedures for the construction of the pattern.

1. Print out all segments of pattern.
2. Trim all printed segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
3. Align crosses with adjacent pattern segments and tape in place.
4. After taping, cut out pattern.



This figure has been divided into multiple segments to facilitate the printing of the pattern.

Figure 6-34AF. HEED Pocket Support Panel Pattern (Sheet 1 of 4)

0634af01

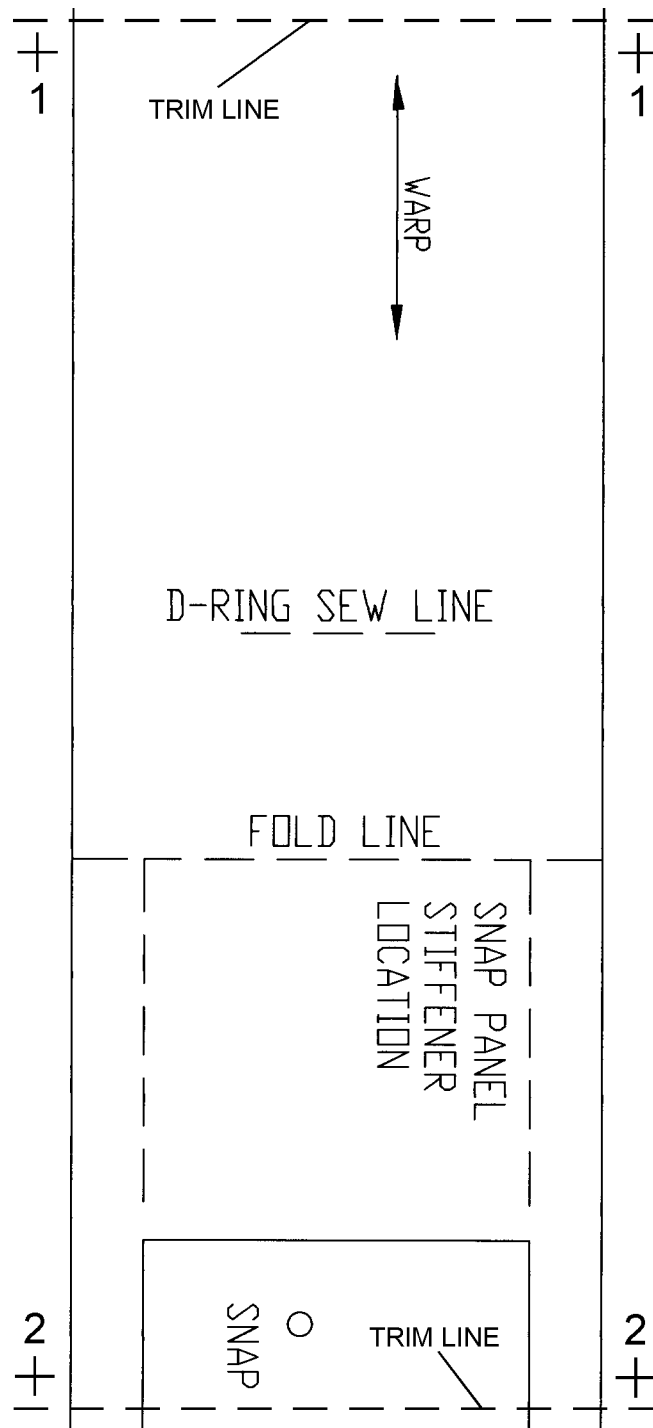


Figure 6-34AF. HEED Pocket Support Panel Pattern (Sheet 2 of 4)

0634af02

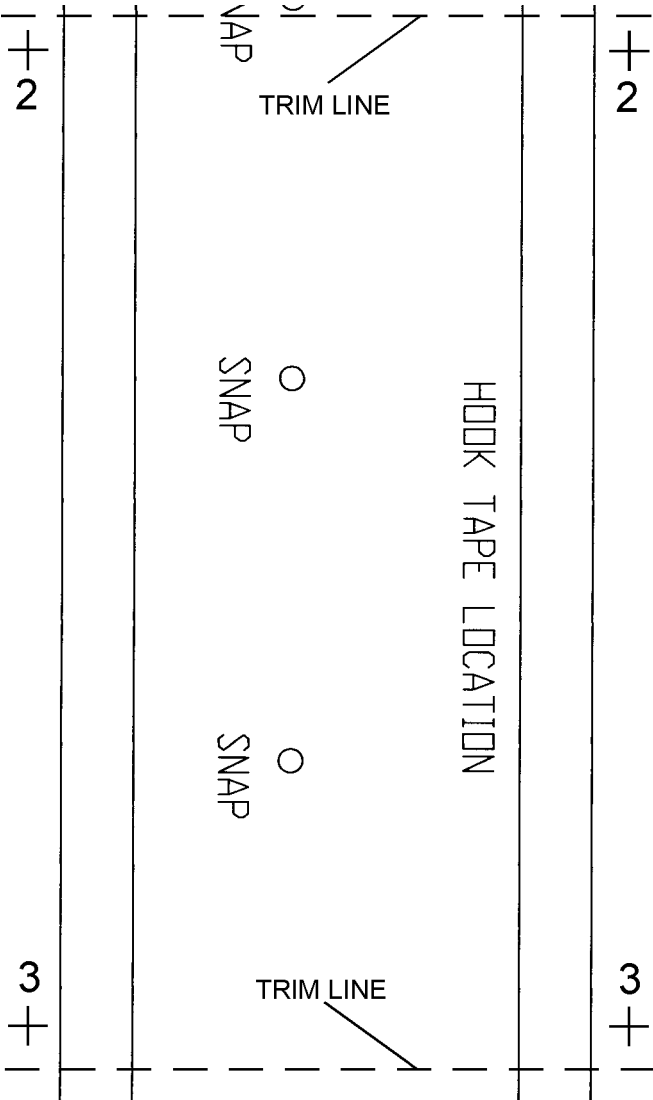


Figure 6-34AF. HEED Pocket Support Panel Pattern (Sheet 3 of 4)

0634af03

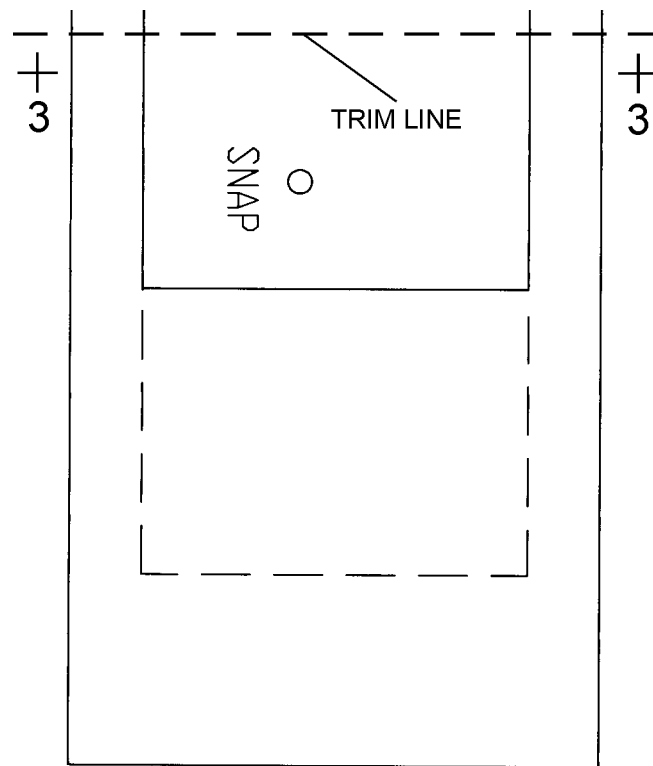
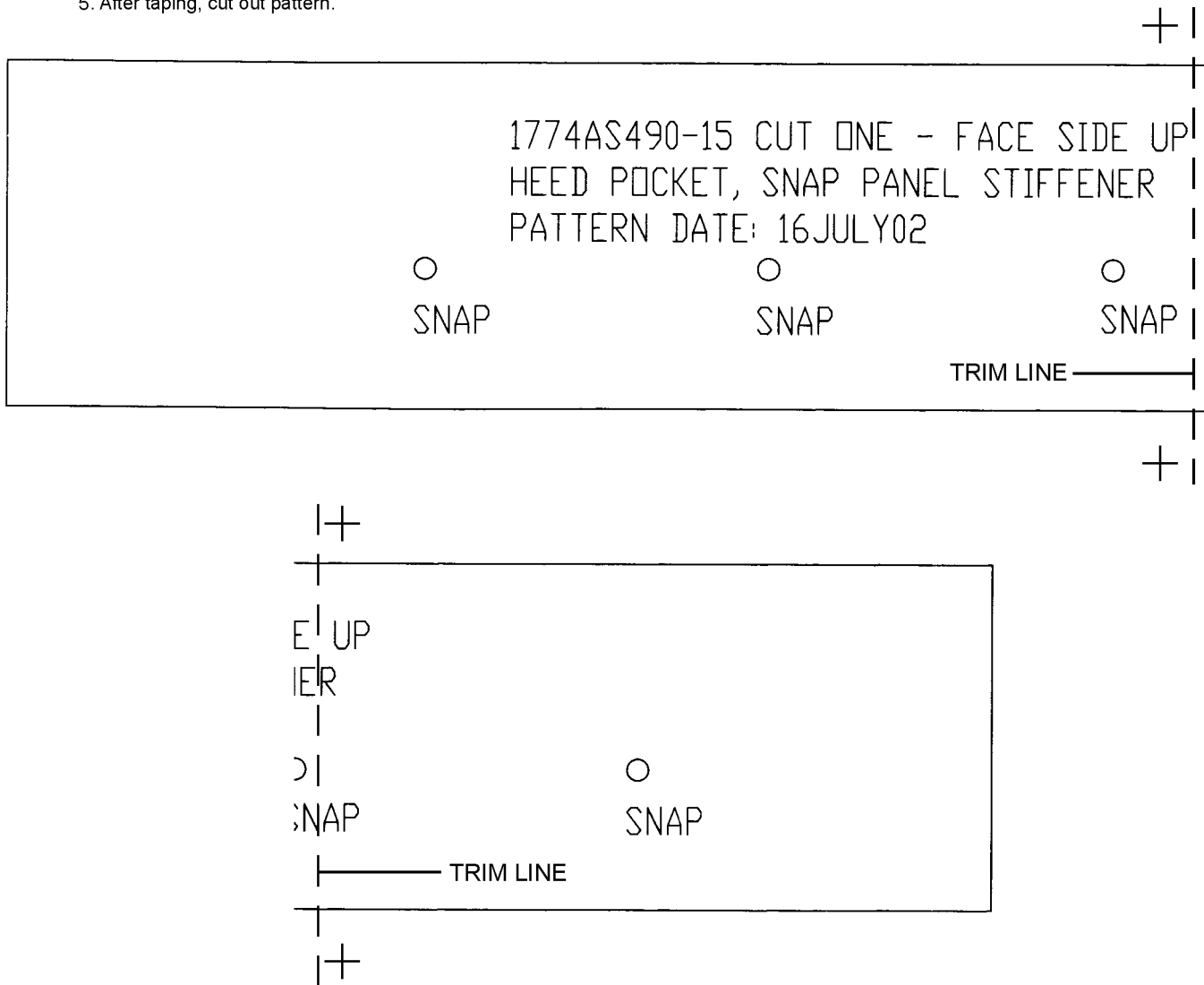


Figure 6-34AF. HEED Pocket Support Panel Pattern (Sheet 4 of 4)

0634af04

NOTE: Procedures for the construction of the pattern.

1. Print out page.
2. Cut pattern segments apart.
3. Trim all segments of pattern at dashed trim line ensuring alignment marks (crosses) remain on the pattern.
4. Align crosses with adjacent pattern segments and tape in place.
5. After taping, cut out pattern.



006034ag

Figure 6-34AG. HEED Pocket Snap Panel Stiffener Pattern

Section 6-4. CMU-24/P Survival Vest

6-88. GENERAL.

6-89. The CMU-24/P Survival Vest (figure 6-35) provides storage for survival equipment necessary during overland missions. It is fleet assembled from the SRU-21/P Survival Vest, with a modified pocket configuration. SRU-21/P Survival Vests modified in accordance with ACC 624 are redesignated CMU-24/P-FW.

6-90. CONFIGURATION.

6-91. The CMU-24/P Survival Vest is constructed of nylon mesh fabric with woven nylon pocket. It has a separating slide fastener front closure and lacing located on the back of the vest for size adjustment.

6-92. APPLICATION.

6-93. The CMU-24/P is designed for use by all TH-57, TH-1L, and Overland Search and Rescue (SAR) aircrewmembers. The CMU-24/P-FW is designed for use by T-34C instructor pilots.

6-94. INITIAL FABRICATION OF CMU-24/P SURVIVAL VEST.

6-95. To fabricate the CMU-24/P Survival Vest proceed as follows:

Materials Required

Quantity	Description	Reference Number
1	Vest, Survival, Type SRU-21/P (see table 6-7, Note) Size: Small Medium Large	MIL-V-83271 NIIN 00-201-9097 NIIN 01-254-7601 NIIN 01-254-7602
1	Pocket, Radio Survival Vest	MIL-V-83271 NIIN 00-442-3616
As Required	Thread, Nylon High Temperature Resistant, Sage Green -or- Thread, Nylon Type II, Size E, Sage Green	MIL-T-83193 NIIN 00-130-6245 V-T-295 NIIN 00-204-3884

Materials Required (Cont)

Quantity	Description	Reference Number
30 Inches	Cord, Nylon Type III, Natural	MIL-C-5040 NIIN 00-240-2146
As Required	Fastener Tape, Hook, Type I, Class 1, Sage Green, 1-Inch Width	MIL-F-21840 NIIN 00-405-2266
As Required	Fastener Tape, Pile, Class 1, Sage Green, 1-Inch Width	MIL-F-21840 NIIN 00-405-2263
As Required	Ink, Waterproof, Black	TT-I-542 NIIN 00-161-4229

NOTE

All stitching shall be in accordance with ASTM-D-6193, Type 301 lockstitch, 7 to 10 stitches per inch with minimum 1/2-inch backstitch. Refer to figure 6-38 for steps 3 through 7.

1. Mark locations of pockets on vest in accordance with figure 6-36 and 6-37.

2. Remove stitching along sides of inside pockets (already installed in vest), being careful not to damage fabric. Do not remove stitching at bottom edge of pocket.

NOTE

When attaching outside pockets keep inside pockets clear of stitching.

3. For the flare kit pocket and large miscellaneous pocket, attach pile tape to vest using a single row of stitching, 1/8 inch from all edges.

4. Attach pile tape to all pocket flaps, using a single row of stitching, 1/8 inch from all edges.



Figure 6-35. CMU-24/P Survival Vest

6-35

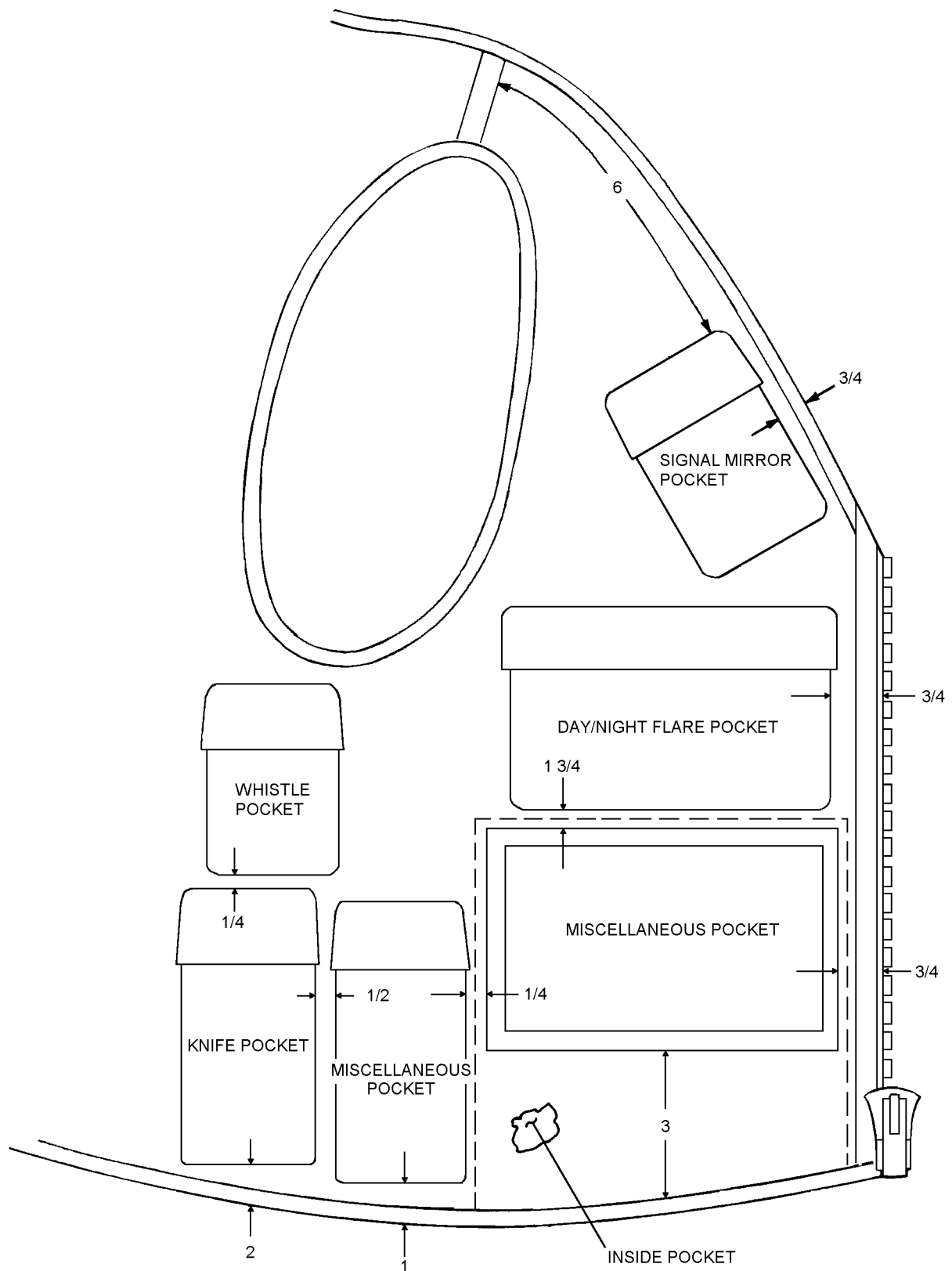


Figure 6-36. CMU-24/P Survival Vest Pocket Placement - Right Front

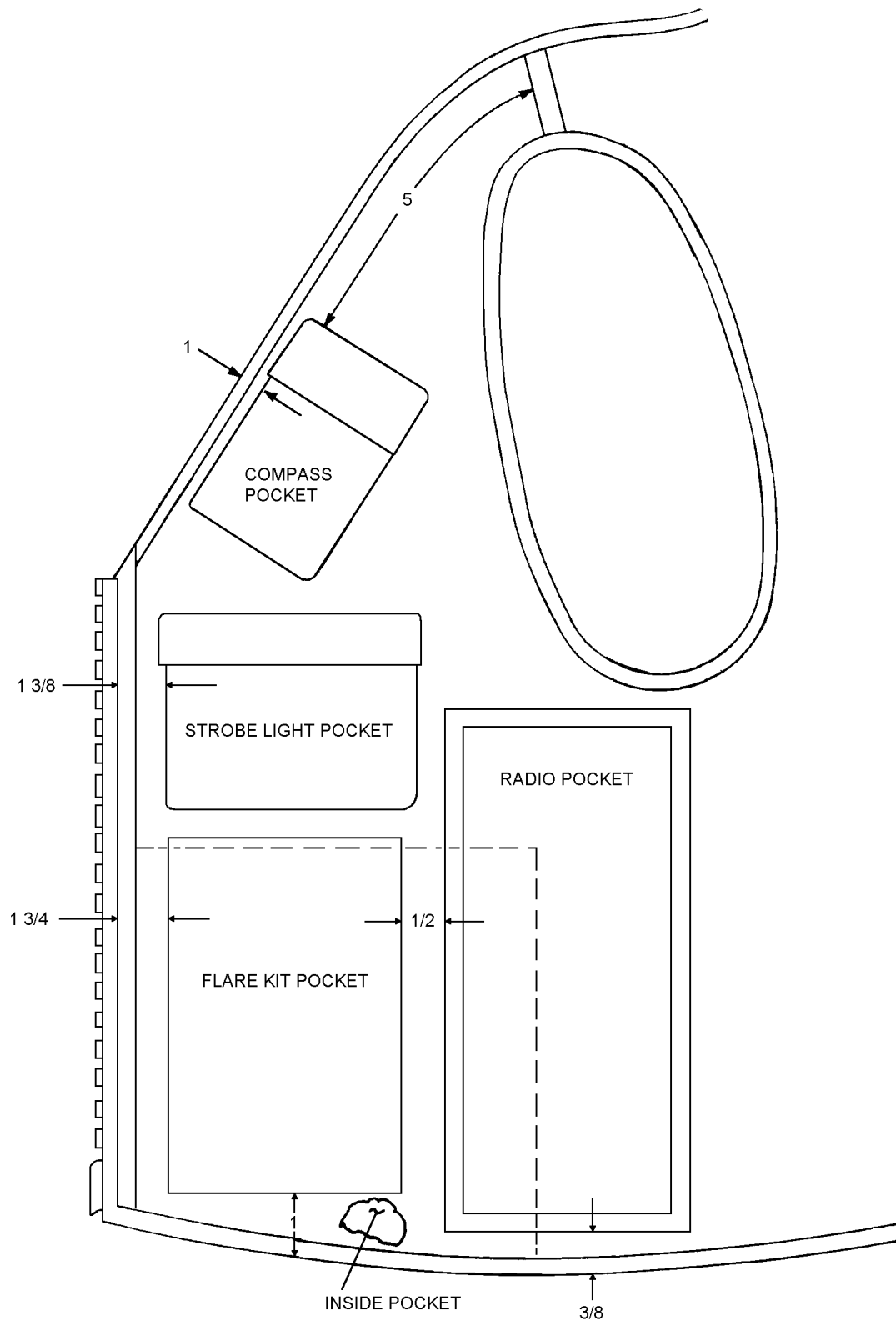


Figure 6-37. CMU-24/P Survival Vest Pocket Placement - Left Front

6-37

Table 6-7. Pockets for CMU-24/P Survival Vest

Pocket	Dimensions			Flap
	Width	Length	Depth	
Signal Mirror	2 5/8	X 3	X 1	Yes
Day/Night Flare	6 5/8	X 2 5/8	X 1 3/8	Yes
Whistle	2 5/8	X 2 1/4	X 1 1/4	Yes
Knife	2	X 4	X 1 1/4	Yes
Miscellaneous	2 1/4	X 3 3/4	X ---	Yes
Miscellaneous	5 1/2	X 3 1/2	X 1 3/4	No
Compass	2 3/4	X 3	X 1	Yes
Strobe Light	5	X 2 1/4	X 1	Yes
Flare Kit	4 1/2	X 6 3/4	X ---	No
Radio	3 3/4	X 9 1/2	X 1 1/4	No
Note: With the exception of the radio pocket, all of the pockets listed above are provided with the SRU-21/P, and in some cases are already attached to the vest. Location and configuration of pockets shall be compared to Figures 6-36 and 6-37, and repositioned as necessary. The radio pocket must be procured separately.				

5. Attach hook tape to all pockets, using a single row of stitching 1/8 inch from all edges.

6. Attach securing loops to all pockets.

7. Attach pockets and flaps to vest.

8. Restitch inside pocket stitching removed during Step 2 at sides, 1/8 inch from edges, keeping outside pocket clear of stitching.

9. Reidentify vest by blacking out the SRU-21/P identification on the identification label using wash-proof black ink. Add new identification, CMU-24/P, as close as possible to original identification using wash-proof black ink.

6-96. FITTING.

6-97. The CMU-24/P vest is worn with standard Navy personal equipment and is supplied in three sizes, small (32 to 35 inches), medium (36 to 42 inches) and large (43 to 49 inches).

6-98. Waist adjustment is accomplished by loosening/tightening the waist lacing located on the back of the vest. A properly fitted CMU-24/P should conform to the torso without gaps, yet not restrict breathing or movement.

6-99. SHOULDER ADJUSTMENT. To shorten the length of the vest proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Thread, Nylon, High Temperature Resistant, Sage Green	MIL-T-83193 NIIN 00-130-6245
As Required	-or- Thread, Nylon, Type II, Size E	V-T-295 NIIN 00-204-3884

1. Have aircrewmember don vest.

2. Pull vest up at shoulder. Mark new shoulder line on front and back of vest.

3. Have aircrewmember remove vest.

4. Match up marks on shoulder. Hand tack or machine stitch (using stitch type 301, 8 to 10 stitches per inch) at marks. Fold excess toward back. Stitch close to edge of fold.

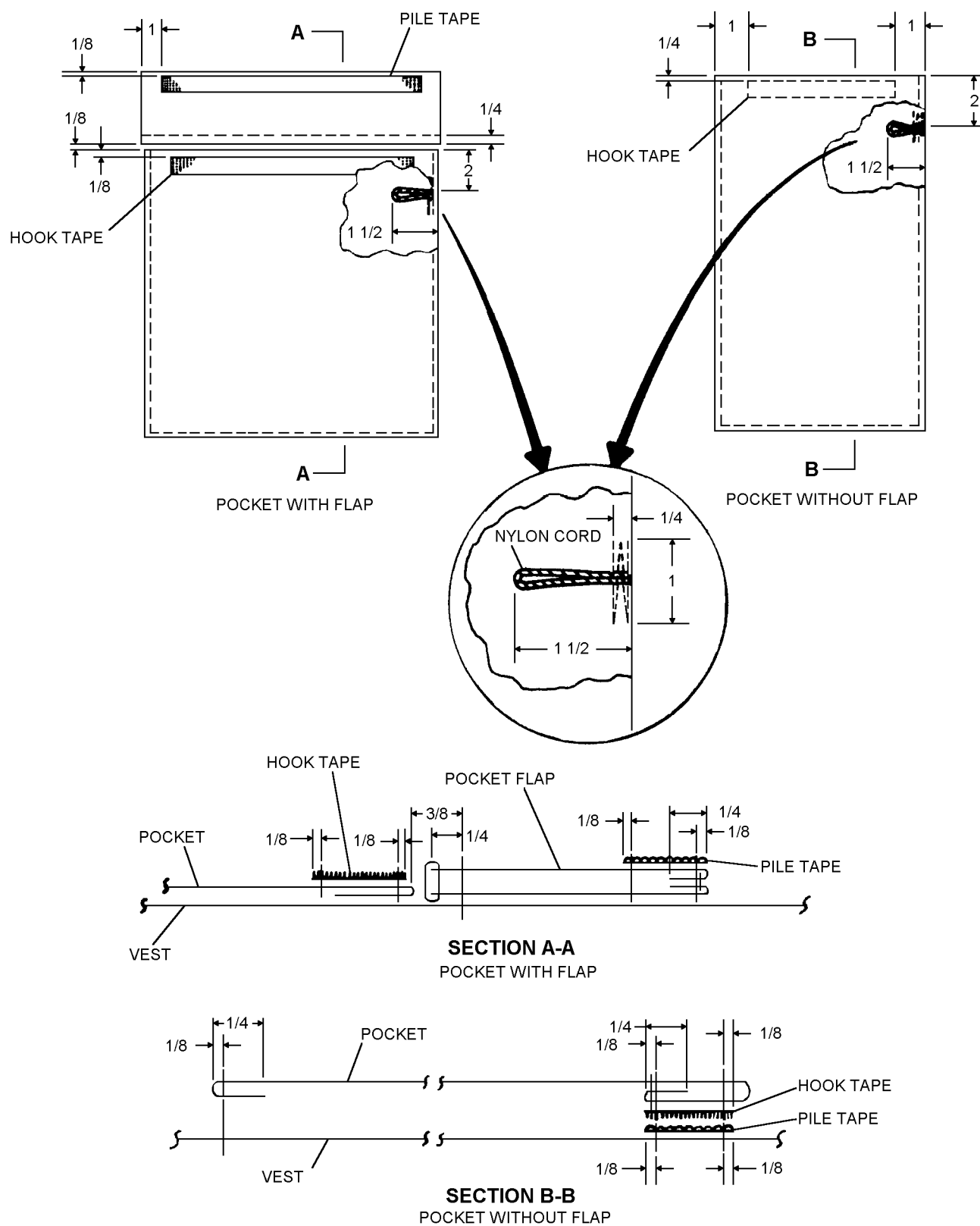


Figure 6-38. Installation of CMU-24/P Vest Pockets

6-100. RIGGING AND PACKING.

6-101. To rig and pack a CMU-24/P Survival Vest, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cord, Nylon, Type I (with core strands removed)	MIL-C-5040 NIIN 00-240-2154
	-or-	
	Type IA (coreless)	NIIN 00-292-9920
12 Inches	Webbing, Textile, Nylon, Type II, 1-Inch Wide	MIL-W-4088
	-or-	
12 Inches	Tape, Textile, and Webbing, Reinforcing Nylon, Type IV, 1-Inch Wide	MIL-T-5038
As Required	Rubber Bands	—

WARNING

Additional items may be added to the CMU-24/P, at the discretion of the aircrew-member. In no case shall additional items exceed 5 pounds total weight. Each additional item shall be secured to the CMU-24/P with a 48-inch length of nylon cord and items shall be stowed to maintain equal weight balance of the vest.

1. Ensure that all survival equipment has been inspected in accordance with NAVAIR 13-1-6.5.

2. Lay out vest and survival items on a clean table.

NOTE

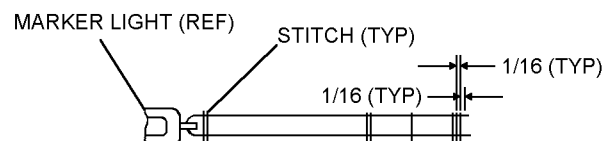
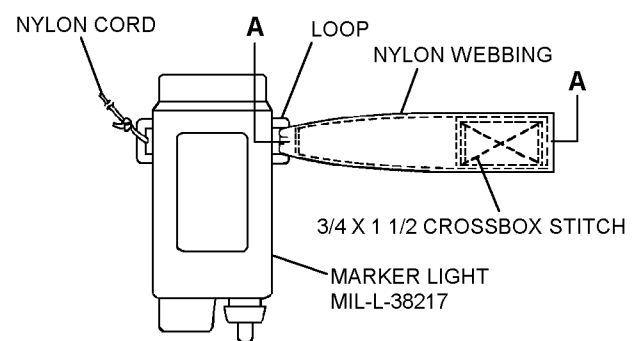
Refer to glossary for directions for tying a bowline knot. Unless otherwise specified, all items will be secured to the vest using a bowline knot and a 48-inch length of nylon cord. Sear the cut ends to eliminate cord fraying. Take the remaining line secured with a lightweight rubber band and stow in vest miscellaneous pocket (see [figure 6-39](#)).

3. Tie a 48-inch length of nylon cord to the pocket loop and retaining loop on the SDU-5/E marker distress light.

NOTE

If SDU-39/N Distress Strobe Light is used, the nylon retaining cord shall be passed through the hole below the SDU-39/N ON/OFF switch and through the loop formed by the folded end of the SDU-39/N lanyard. Refer to [paragraph 6-43](#) for fabrication and installation of the SDU-39/N lanyard.

4. Cut and sear a 12-inch length of 1-inch webbing (MIL-W-4088, Type II, yellow, or MIL-T-5038, Type IV, Sage Green) and place through loop on distress signal light and draw ends even. Stitch a single row 1/8 inch from edge around all edges as close as possible to loop. Double stitch across tape next to loop. Crossbox stitch open end.



SECTION A-A
DISTRESS SIGNAL LIGHT ATTACHMENT 6P101S4

Step 4 - Para 6-101

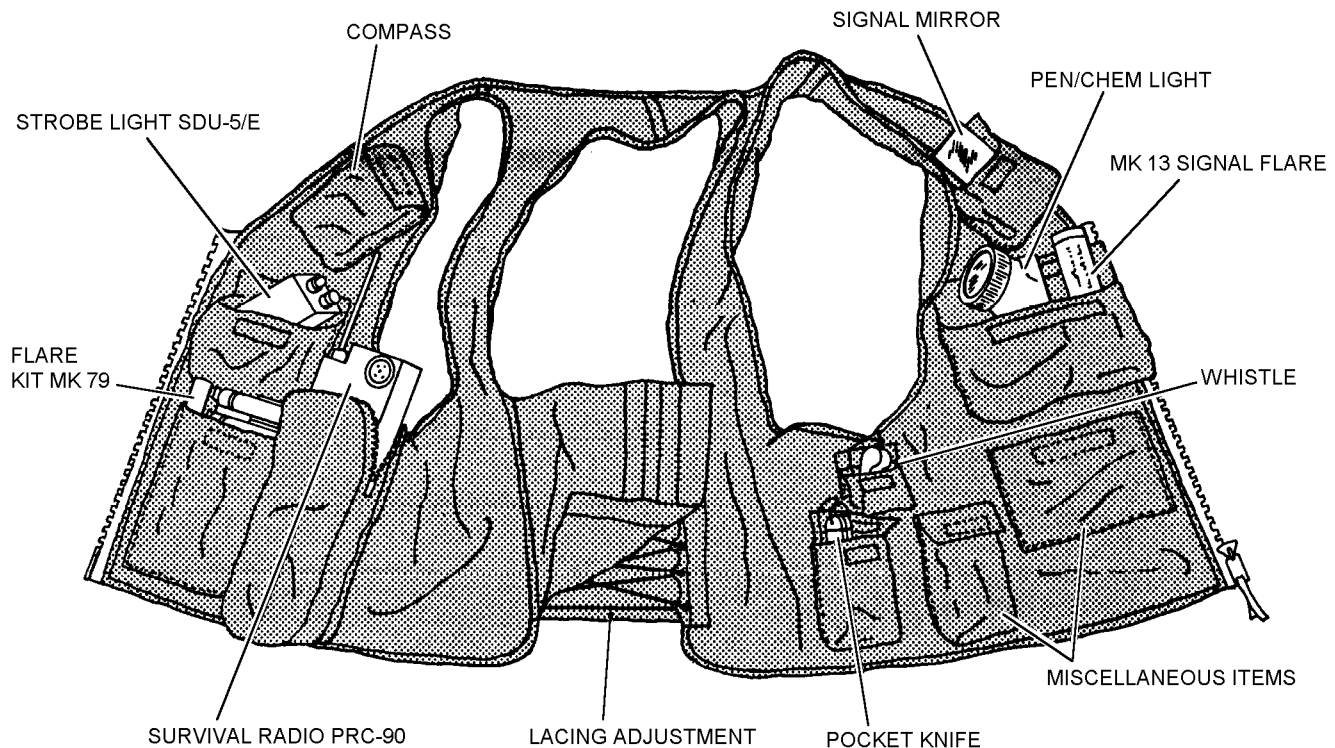


Figure 6-39. Location of Survival Items, CMU-24/P

6-39

NOTE

Ensure plastic switch protective cap is removed from actuation switch on marker distress light (SDU-5/E).

5. Install light in pocket, dome end down. Ensure that the tab is positioned toward the center slide fastener and is exposed from the strobe light compartment.

6. Tie a 48-inch length of nylon cord to radio and secure opposite end to loop in pocket using a bowline knot.

7. Ensure volume control of radio is set at maximum output. Loop the antenna of radio and secure it to radio with a rubber band. Insert radio into pocket and close slide fastener.

8. Cut a 60-inch length of nylon cord and sear ends. Tie a bowline knot to eyelet attachment of flare gun from MK-79 MOD 0 distress signal kit. Tie other end of line to loop in pocket using a bowline knot.

WARNING

Pyrotechnics must not be taken to the barracks and, when removed from bandolier, should be returned to original container. Ensure that the flare gun from MK-79 MOD 0 signal kit is empty of flares.

9. Insert signal flare gun into flare gun pocket after complying with NAVAIR 13-1-6.5. Accordion-fold excess length of line and secure it with a lightweight rubber band. Ensure that flare gun is stowed with knurled knob back (cocked position) and empty of flares.

CAUTION

Ensure that protective plastic caps (NIIN 00-324-9158) are installed on flares before installation into webbing keepers.

10. Install signal flare gun flares into webbing keepers.

NOTE

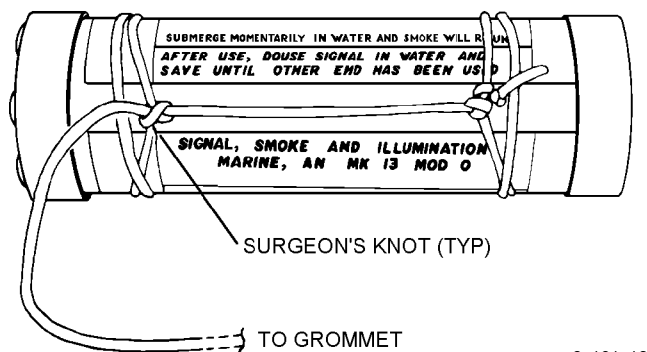
If plastic bandolier is available, it is acceptable to stow it in the CMU-24/P instead of stowing flare cartridges in webbing keepers. Protective plastic caps are not required when bandolier is used.

11. If plastic bandolier is available, secure it to the CMU-24/P as follows:

a. Remove a 48-inch length of cord from bandolier and replace with a 12-inch length of nylon cord and sear ends.

b. Tie a bowline knot to hole provided in one end of bandolier and tie other end to loop in pocket.

12. Prior to installing MK-13 MOD or MK-124 MOD 0 distress signal, cut an 80-inch length of nylon cord and sear ends. Tie an overhand knot in one end. Wrap end of cord two turns around one end of signal flare and tie with a surgeon's knot. Turns of cord shall overlap with all knots positioned snugly against each other. Route cord to opposite end of signal flare and tie in same manner as above. Cord between ties shall be drawn tight. Secure free end of cord to distress signal light grommet with a bowline knot.



Step 12 - Para 6-101

6p101s12

13. Secure all additional items with a 48-inch length nylon cord and stow in vest balancing weight.

6-102. MODIFICATIONS.

6-103. Repairs and replacements to maintain service ability of the vest are listed in [table 6-8](#). Repairs other than those listed may be performed at the discretion of the repairing maintenance facility.

6-104. MAINTENANCE.

6-105. Repairs or other maintenance actions required shall be performed at the lowest maintenance level possible. All maintenance actions and inspections shall be documented in accordance with OPNAVINST 4790.2 Series.

6-106. SPECIAL INSPECTION.

6-107. The Special Inspection shall be performed by organizational level or above upon issue prior to placing the CMU-24/P in service, and every 90 days thereafter. To perform the Special Inspection proceed as follows:

NOTE

Survival items shall be inspected in accordance with NAVAIR 13-1-6.5, Rescue and Survival Equipment.

1. Visually inspect survival items in accordance with NAVAIR 13-1-6.5.

2. Ensure proper contents are securely fastened to vest.

3. Inspect fabric for cuts, tears, and abrasions.

4. Inspect stitching for security.

5. Inspect hook and pile fasteners for secure attachment and closure.

6. Inspect for presence and security of attachment of survival items.

7. Inspect slide fastener for damage, security, and ease of operation. Inspect thong pull tabs for presence and security of attachment.

8. Verify condition of survival vest.

9. Ensure completion of inspection and that any discrepancies found were corrected.

10. If cleaning is necessary, follow steps listed in [paragraph 6-108](#).

Table 6-8. Repairs/Replacement

Description of Repair/Fabrication	Paragraph
Replacement of Loose or Broken Stitching	Note 1
Repair of Small Holes or Tears	Note 1
Replacement of Hook and Pile Fastener Tapes	Note 2
Replacement of Lacing Cord	6-112
Fabrication of Signal Flare Keeper	6-113
Notes: 1. Broken or loose stitching shall be repaired by restitching. 2. Worn or damaged hook and pile fastener tapes may be repaired using the same type and length of fastener tape.	

11. If cleaning is not necessary, repack vest in accordance with [paragraph 6-100](#).

12. Document inspection in accordance with OP-NAVINST 4790.2 Series.

6-108. CLEANING.

6-109. To clean a CMU-24/P vest, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Detergent, Laundry	Commercial

1. Mix a proper strength solution of detergent using detergent manufacturer’s recommendations.



Ensure that all survival items are removed from vest.

2. Immerse vest in solution and allow to soak for five minutes. Agitate gently for two minutes. Drain, do not wring.

3. Rinse vest in cool, fresh water until all traces of detergent are gone.



Do not use dryer; do not hang in direct sunlight.

4. Hang vest on wooden hanger in a well ventilated area until dry. Do not iron or press.

5. Repack vest in accordance with [paragraph 6-100](#).

6-110. REPAIRS AND REPLACEMENTS.

6-111. Repairs and replacement shall be performed at the lowest level of maintenance possible. [Table 6-8](#) lists the common repairs and fabrications to maintain serviceability.

6-112. REPLACEMENT OF LACING CORD. To replace the lacing cord, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Cord Polyamide, High Temperature Resistant	MIL-C-81104 NIIN 01-218-8409
As Required	Beeswax	C-B-191 NIIN 00-253-1171 -or- NIIN 00-253-1173
As Required	Paraffin	W-W-95 NIIN 00-285-2048 or equivalent

NOTE

The color of the lacing cord shall approximately match the color of the outershell cloth.

1. Unlace damaged or defective cord and discard.

2. Cut a new length of cord the same length as cord being replaced and dip each cut end into an approximately 50/50 beeswax/paraffin mixture to a depth of 1 inch to prevent fraying.

3. Replace using new cord and refit in accordance with [paragraph 6-96](#).

6-113. FABRICATION OF SIGNAL FLARE KEEPER.

6-114. If a plastic bandolier is not provided with the MK-79 MOD 0 signal kit, it may be necessary to fabricate a keeper for the signal flares. To fabricate a signal keeper, proceed as follows:

Materials Required

Quantity	Description	Reference Number
6 3/4 Inches	Webbing, Nylon, Type IX, 3-Inch Width, Sage Green	MIL-W-4088 NIIN 00-823-8846
6 3/4 Inches	Webbing, Cotton Elastic, Class 1, 1-Inch Width, Black	MIL-W-5664 NIIN 00-263-3600

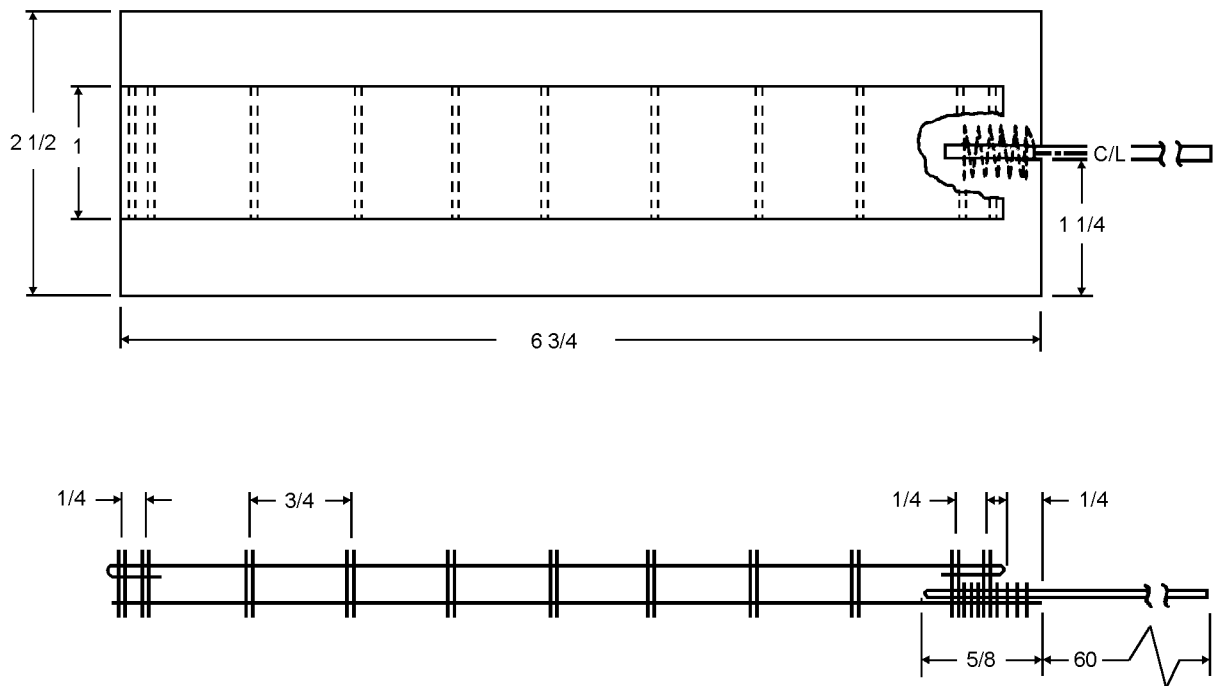
Materials Required (Cont)

Quantity	Description	Reference Number
60 5/8 Inches	Cord, Nylon, Type I	MIL-C-5040 NIIN 00-240-2154
As Required	Thread, Nylon, High Temperature Resistant, Sage Green	MIL-T-83193 NIIN 00-130-6245
-or-	Thread, Nylon, Type II, Size E, Sage Green	V-T-295 NIIN 00-204-3884

1. Cut webbing and elastic. Sear ends.

2. Position nylon cord on webbing. Stitch, using stitch type 301, 8 to 10 stitches per inch. Backstitch 1/2 inch at ends of stitching.

3. Position elastic on webbing. Stitch with double rows of stitching, 1/16 inch apart, using stitch type 301, 8 to 10 stitches per inch. Backstitch 1/2 inch at ends of stitching.



Steps 2 and 3 - Para 6-114

6p114s2

Section 6-5. CMU-29(V)2/P CBR Overvest

6-115. GENERAL.

6-116. The CMU-29(V)2/P CBR Overvest is used to store the pusher fan and filter canister when the A/P22P-14(V)2 thru (V)4 variant Chemical, Biological, and Radiological (CBR) Respirator Assemblies are worn by fixed wing aircrews. The three respirator assembly variants are configured as the A/P22P-14(V)2, Tactical LOX; A/P22P-14(V)3, OBOGS; and A/P22P-14(V)4, Panel Mounted Oxygen Regulator. Each variant consists of the CBR Mask and Lower Assembly. The Lower Assembly consists of an H-manifold, lower hoses (for delivering both air and oxygen), pusher fan subassembly, and C2A1 canister with appropriate plumbing to connect to either LOX, OBOGS, or Panel Mounted oxygen delivery systems.

6-117. CONFIGURATION.

6-118. The CMU-29(V)2/P Overvest is constructed primarily of nylon mesh, nylon straps and nylon cloth. Adjustable shoulder and waist straps along with a front slide fastener provide a means of fitting and securing the vest to the aircrew. Pockets are provided for stowage of pusher fan and filter canister, battery, flashlight, hook blade knife and oxygen regulator. The chest-mounted oxygen regulators shall be located inside a pocket secured to the vest by means of both slide fasteners and, hook and pile tape. The pusher fan and filter canister, and the survival item pockets are shown in figure 6-40. An interior lay-out of the vest panel and straps are shown in figure 6-41. The CRU-79 Oxygen Regulator pocket is shown in figure 6-42, and the CRU-82/P, CRU-88/P and CRU-103/P Oxygen Regulator pocket are shown in figure 6-43. The Panel Mounted oxygen regulator configuration does not use a pocket on the Overvest for the oxygen hose going to the regulator.

6-119. DRAWING INDEX.

6-120. Table 6-9 indicates the drawing number and nomenclature for the CBR Overvest and components.

Table 6-9. CMU-29(V)2/P CBR Overvest Drawings Index

Drawing Number	Nomenclature or Description
3298AS300	Vest Assembly
3298AS320	CRU-79/P Oxygen Regulator Pocket
3298AS330	CRU-82/P, CRU-88/P or CRU-103/P Oxygen Regulator Pocket

6-121. APPLICATION.

6-122. The CMU-29(V)2/P Overvest is designed for fixed wing aircrews when the A/P22P-14(V)2 thru (V)4 CBR Respirator Assembly variants are required to be worn. The CBR Overvest is worn over either the SV-2B Survival Vest, CMU-331P Survival Vest, or the ACC 380 Integrated Torso Harness to stow the CBR Respirator Assembly pusher fan and filter canister, and various survival items. The illustrations and procedures contained in NAV-AIR 13-1-6.10, Special Mission Aircrew Equipment, should be used in conjunction with the illustrations and procedures in this manual to properly integrate the A/P22P-14(V)2 through (V)4 CBR Respirator Assemblies with the CMU-29(V)2/P CBR Overvest. The specific equipment worn by each aircrewmember is specified in the NAVAIR 13-1-6 Series Aviation-Crew Systems manuals.

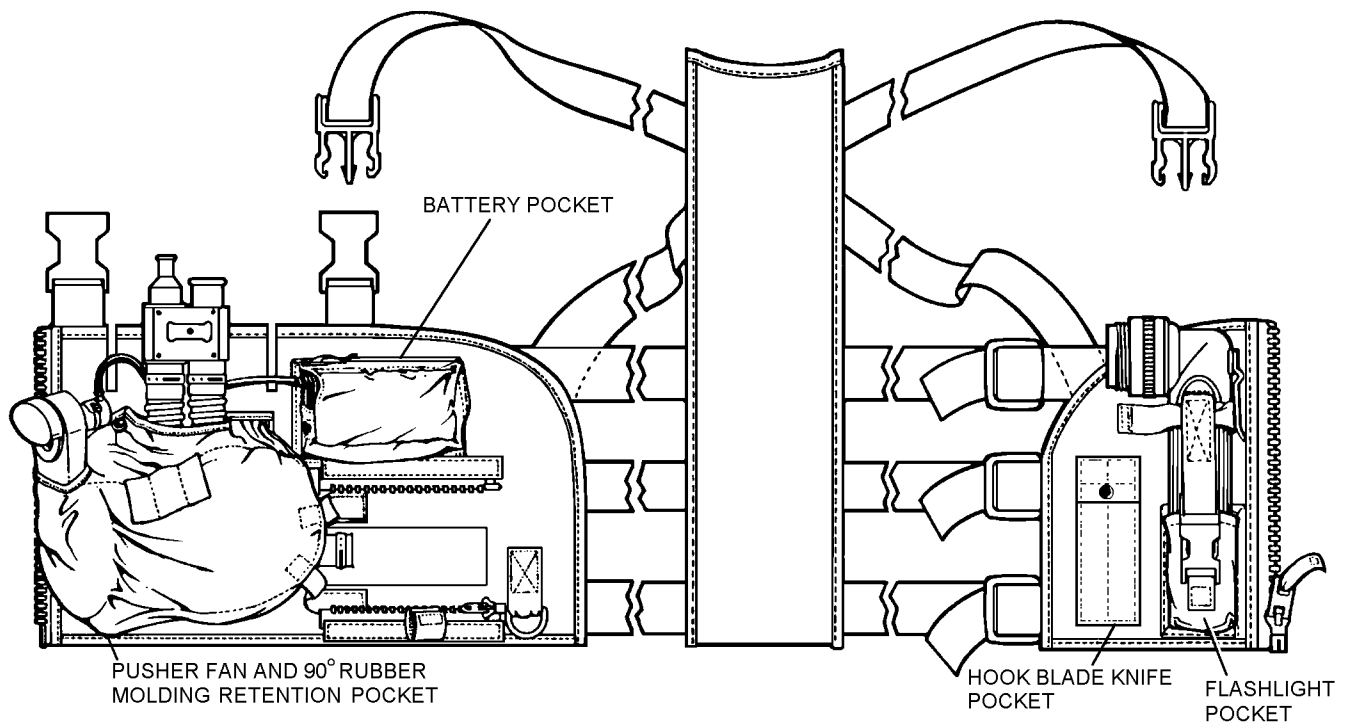
6-123. INSTALLATION.

6-124. INSTALLATION OF A/P22P-14(V)2 THRU (V)4 CBR RESPIRATOR ASSEMBLIES. For installation of the A/P22P-14(V)2 thru (V)4 CBR Respirator Assemblies into the CMU-29(V)2/P CBR Overvest, proceed as follows:

NOTE

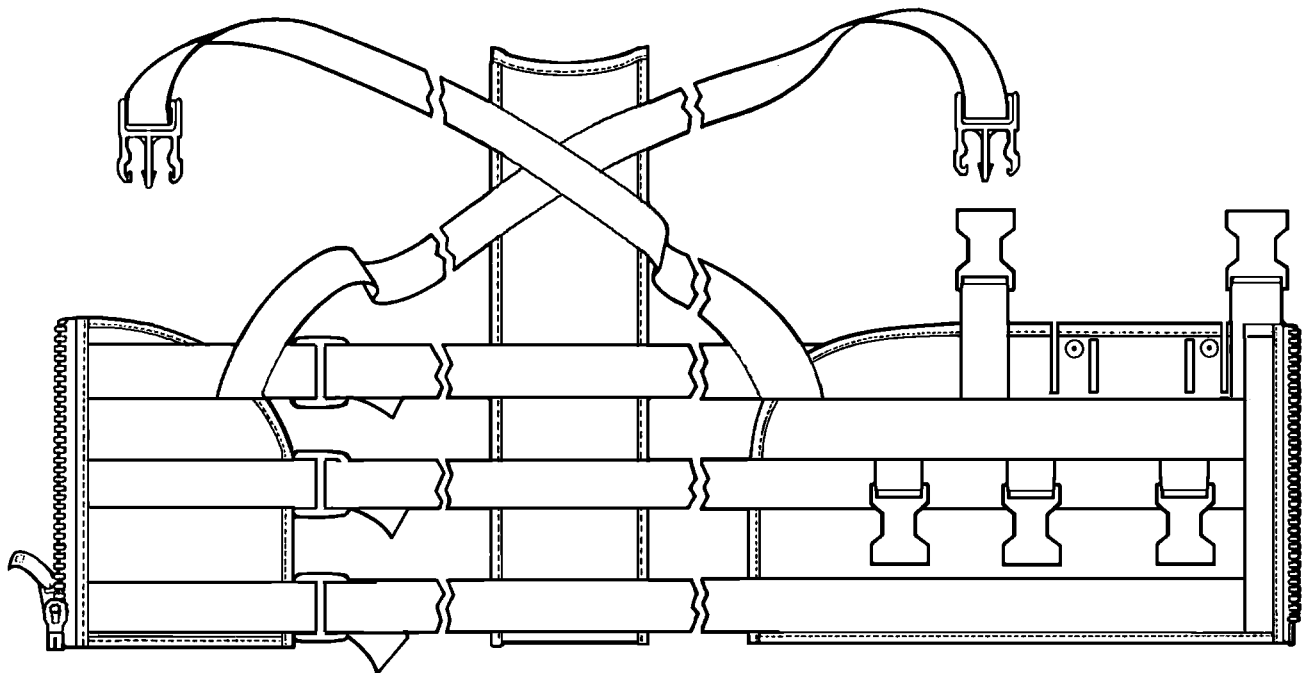
Refer to NAVAIR 13-1-6.10 manual for the configuration of the lower assembly, to include the pusher fan, filter canister, oxygen regulator and oxygen regulator hose for the A/P22P-14(V)2 through (V)4 variants.

1. Place the vest on a clean dry surface with the larger panel, bearing the canister and battery pockets, facing up and the slide fastener on the left.



6-40

Figure 6-40. CMU-29(V)2/P CBR Overvest



6-41

Figure 6-41. CMU-29(V)2/P CBR Overvest, Interior View

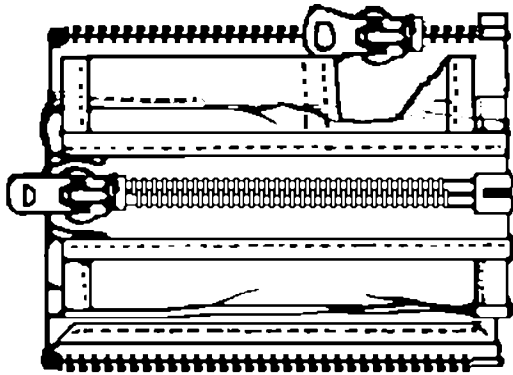


Figure 6-42. CRU-79/P Oxygen Regulator Pocket, P/N 3298AS320-1

6-42

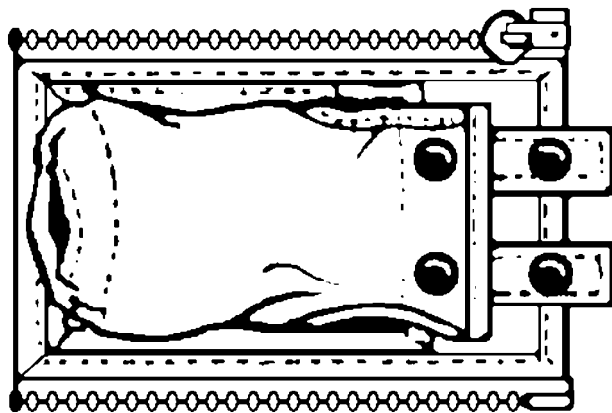
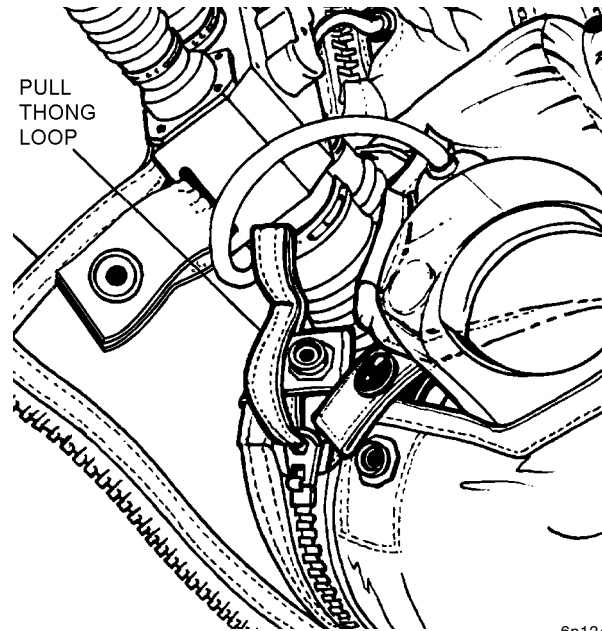


Figure 6-43. CRU-82/P, CRU-88/P, and CRU-103/P Oxygen Regulator Pocket P/N 3298AS330-1

6-43

2. Stow the 90° rubber molding into the retention pocket. Route the regulator hose or connector through the small hole in the retention pocket. Stow the pusher fan subassembly in the retention pocket. Ensure the cable tie is connected directly below the neck of the pusher fan.

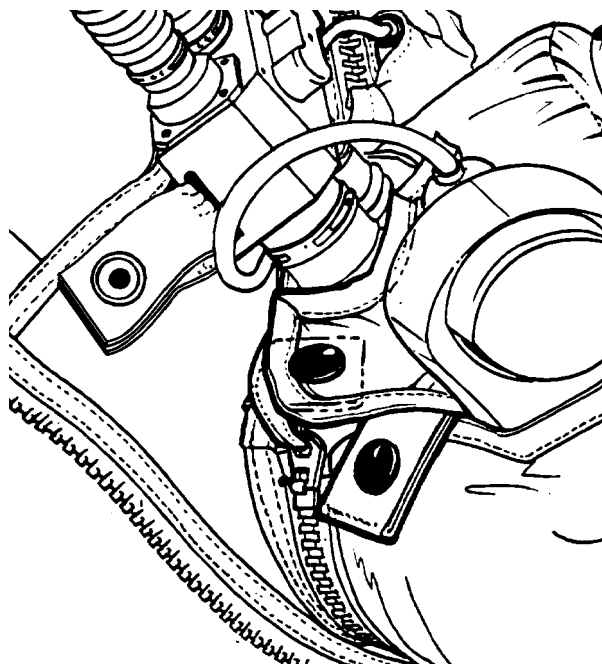
3. Close the pocket slide fastener and insert the tab bearing a snap fastener stud through the loop in the slide pull thong.



6p124s3

Step 3 - Para 6-124

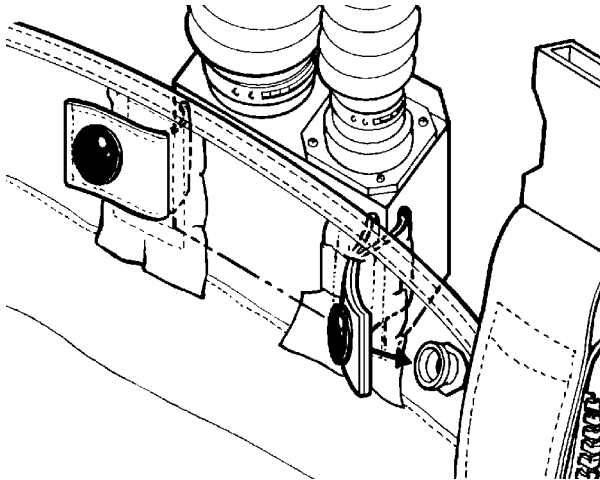
4. Secure in place with the snap fastener socket set in the pocket fabric. Secure the remaining snap fastener.



6p124s4

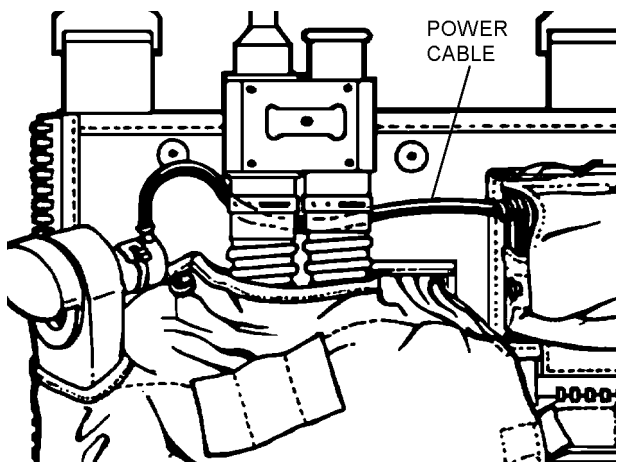
Step 4 - Para 6-124

5. Reeve the snap fastener tabs on the H-manifold through the slots in the overvest and mate them to the snap fastener studs on the other side of the panel.



Step 5 - Para 6-124

6. Route the pusher fan power cable under the H-manifold hoses toward the battery pocket. Plug the power cable into a battery, stow and secure the battery in the pocket.

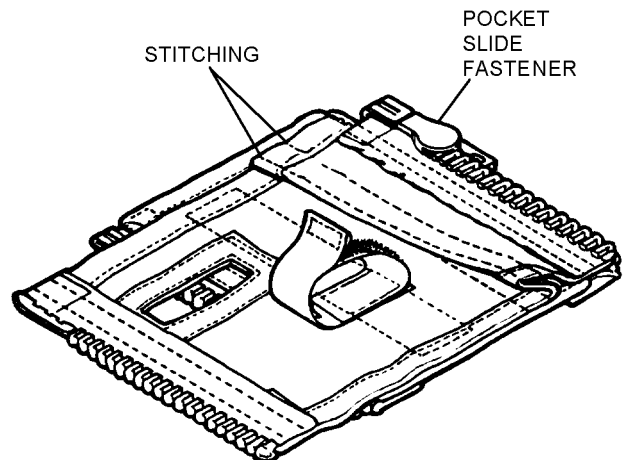


Step 6 - Para 6-124

6-125. INSTALLATION OF CRU-79/P OXYGEN REGULATOR.

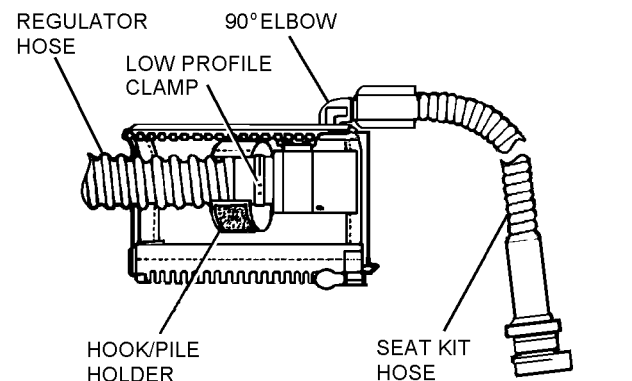
To install the CRU-79/P oxygen regulator, proceed as follows:

1. To accommodate the larger CRU-79/P Regulator, cut the rows of stitching on the regulator pocket interior closest to the slider and unfold.



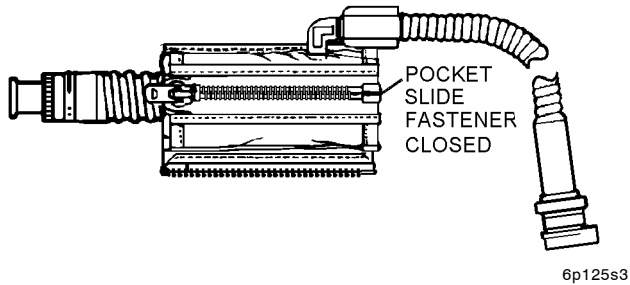
Step 1 - Para 6-125

2. To install the CRU-79/P regulator in its pocket, pass the seat kit hose quick-disconnect through the inside rectangular opening. Pull the hose through the opening until the communications connector and 90° elbow are on the outside. Attach the regulator to the hose using the appropriate low profile clamp.



Step 2 - Para 6-125

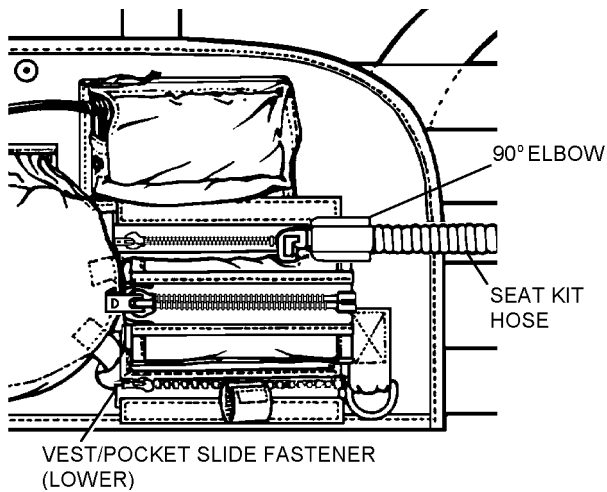
3. Secure the hook and pile tape around the regulator outlet, then close the slide fastener.



Step 3 - Para 6-125

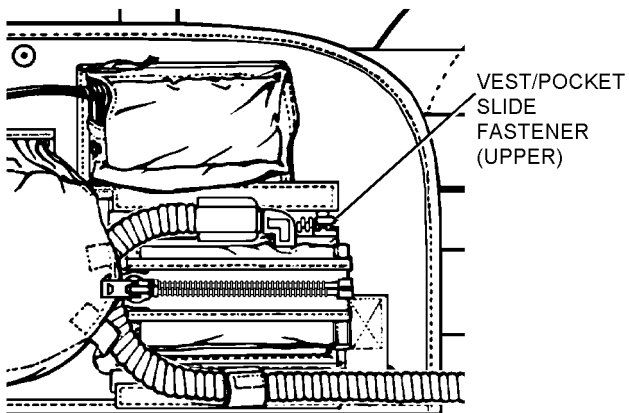
4. Secure the regulator pocket to the vest by engaging the slide fasteners on the vest and pocket.

5. Orient the oxygen hose and leave it free as shown.



Step 5 - Para 6-125

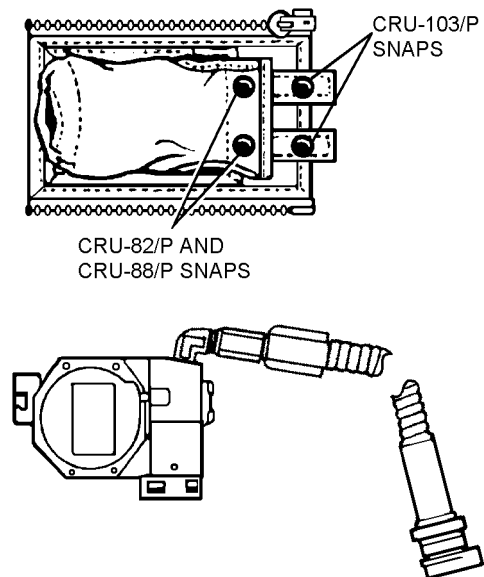
6. To accommodate an individual with a shorter torso, it may be necessary to route the regulator hose under the retention pocket snaps.



Step 6 - Para 6-125

6-126. INSTALLATION OF CRU-82/P, CRU-88/P OR CRU-103/P OXYGEN REGULATOR. To install the CRU-82/P, CRU-88/P or CRU-103/P oxygen regulator, proceed as follows:

1. Lay out the regulator pocket with the circular opening for the regulator outlet on the left, the snap fastener pull tabs on the right, and the hook fastener facing down.



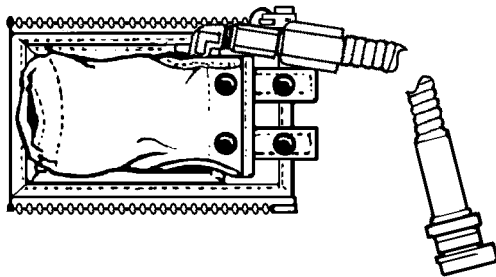
Step 1 - Para 6-126

2. Attach the 90° elbow to the seat pan oxygen hose and the regulator.

NOTE

For the CRU-82/P and CRU-88/P Regulators, use the 90° elbow that comes with the CBR Respirator Assembly. For the CRU-103 Regulator OBOGS application, use the 90° elbow that comes with the Respirator Assembly. For the 103/P Regulator LOX application, use the 90° elbow that is removed from the CRU-79/P.

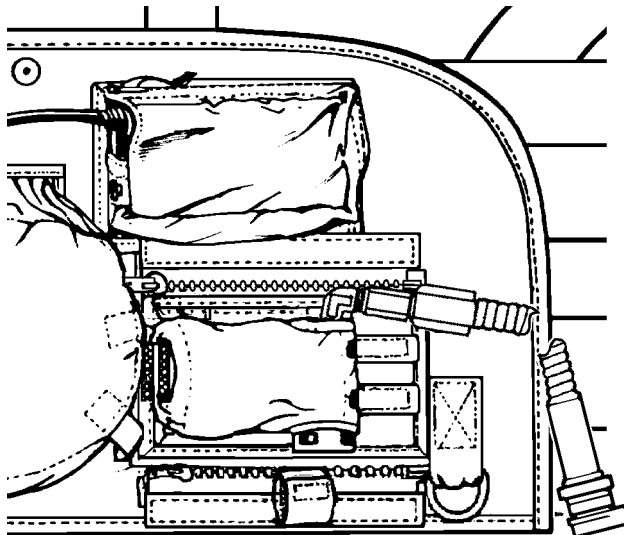
3. Insert the CRU-82/P, CRU-88/P or CRU-103/P regulator into the pocket outlet end first, and with the identification plate facing up. Ensure that the outlet extends through the opening completely, exposing the slots for engaging the pins on the MS27796 connector. Engage the snap fastener and hook and pile closures.



6p126s3

Step 3 - Para 6-126

4. Attach the regulator pocket to the vest by means of the slide fasteners. Orient the oxygen hose and leave it free as shown.



6p126s4

Step 4 - Para 6-126

5. Connect the CRU-82/P, CRU-88/P, or the CRU-103 Regulator to the 3-Pin Bayonet Connector.

6-127. INSTALLATION OF FLASHLIGHT AND HOOK BLADE KNIFE. To install the flashlight into CMU-29(V)2/P CBR Overvest, proceed as follows:

1. Insert a cable tie, of adequate length, through the flashlight retention strap.

2. Route cable tie around the neck of the flashlight and underneath the metal clip.

3. Insert flashlight through vest strap into flashlight pocket and secure with the plastic buckle. Position flashlight with lens pointed outward.

4. Remove hook blade knife from the survival vest or harness, as applicable, and install in the overvest hook blade knife pocket. Tether the knife to the grommet on the overvest knife pocket.

6-128. FITTING.

6-129. The CMU-29(V)2/P CBR Overvest comes in one size and is designed to fit all aircrewmember sizes by adjusting the shoulder straps and waist straps as required to fit each individual. To fit the CBR Overvest, proceed as follows:

NOTE

For proper fit, adjustments must be made in both standing and sitting positions.

1. Don all normal flight equipment and ensure the torso harness and survival vest have been properly fitted to the individual aircrewmember.

2. Fit and integrate CMU-29(V)2/P CBR Overvest to the survival vest and life preserver unit.

NOTE

The A/P22P-14(V)2 or (V)3 Respirator Assemblies shall be installed into the CMU-29(V)2/P overvest in accordance with [paragraph 6-124](#) prior to performing following steps.

The flight suit, torso harness and BTN clothing shall be donned in accordance with NAVAIR 13-1-6.10, prior to performing the following steps.

a. If using CMU-33/P, Type II vest, first remove radio pocket.

b. Don survival vest and life preserver in accordance with [paragraph 6-16](#) or NAVAIR 13-1-6.7-4.

c. Don A/P22P-14(V)2 or (V)3 Respirator Assembly. Ensure Pusher Fan is turned on. Refer to NAVAIR 13-1-6.10 for proper fitting procedures.

d. Don CMU-29(V)2/P Overvest. Position it to permit unrestricted head rotation and to eliminate cockpit controls interference.

NOTE

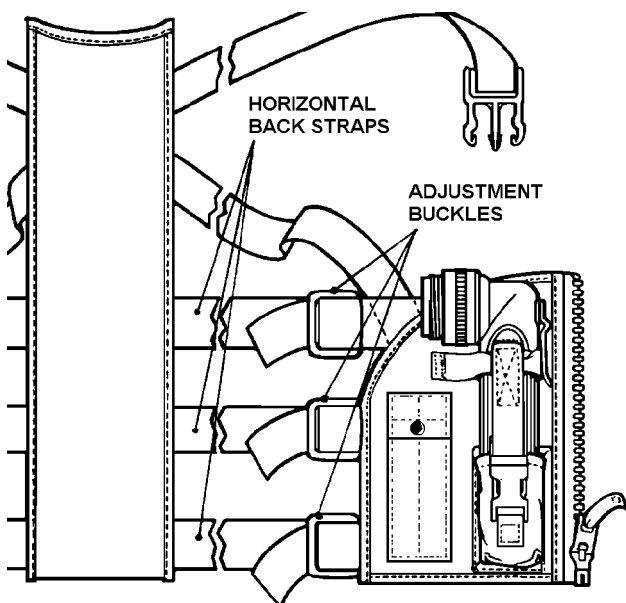
If using LPU-36/P, route tie downs through clearance slots on CMU-29(V)2/P Overvest.

e. Install CMU-29(V)2/P Overvest windblast retention straps (see figure 6-44). For use with CMU-33/P vest, position straps on loops of CMU-33/P vest to ensure alignment for an in-line pull. Connect both halves of retention strap. For use without CMU-33/P, secure windblast retention straps directly to torso harness D-rings. Adjust straps for slight tension.

f. Route excess strap through tri-lock and secure by tacking using waxed 6 cord 1 turn double. Ensure tacking passes through all straps and around tri-lock center bar. Tie off tacking using a surgeon's knot followed by a square knot (see figure 6-44).

g. If using CMU-33/P, Type II vest, reinstall radio pocket on CMU-33/P vest. Ensure one windblast retention strap is located behind radio and is accessible for doffing.

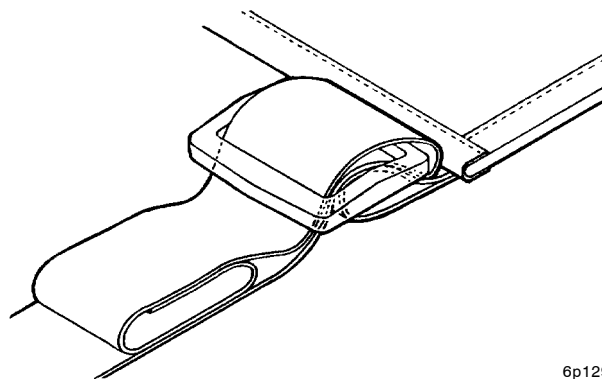
3. With the overvest ideally positioned, adjust the shoulder straps and waist straps for a snug but comfortable fit.



Step 3 - Para 6-129

6p129s3

4. After adjusting the horizontal back straps, reeve the free end of the straps back through the friction adapter.



Step 4 - Para 6-129

6p129s4

5. Using a nonpermanent marker, such as tailors' chalk, make reference marks on the straps to mark their position in case the straps loosen while the aircrewmember is doffing the vest.

6. After the aircrewmember has doffed the vest, verify the position of the straps relative to the marks made in the previous step and adjust as necessary.

7. Tack all straps with one turn of waxed nylon 6 cord, single, passing the 6 cord through the webbing and around the crossbar of the friction adapter. Tie off using a surgeon's knot followed by a square knot. Sear the ends or use an overhand binder knot.

8. Fold the free ends of the straps over in 1 1/2 to 2 inch folds and tack down with one turn of waxed nylon 6 cord, single. Tie off using a surgeon's knot followed by a square knot. Sear the ends or use an overhand binder knot.

6-130. MODIFICATIONS.

6-131. There are no modifications for the CBR Overvest.

6-132. MAINTENANCE.

6-133. Repairs or other maintenance actions required shall be performed by organizational level or above. All maintenance actions and inspections shall be recorded on the appropriate form in accordance with OPNAVINST 4790.2 Series.

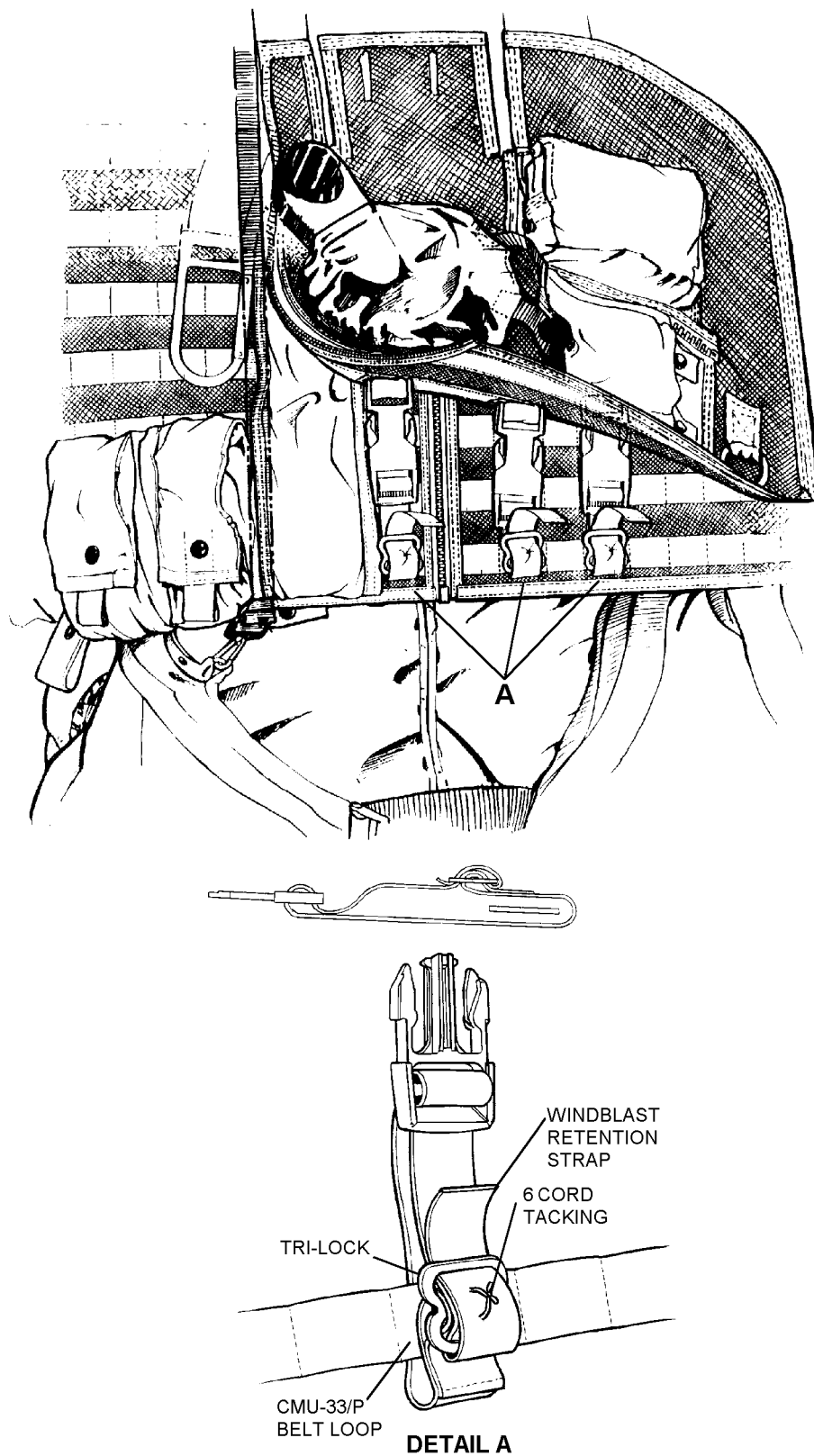


Figure 6-44. CMU-29(V)2/P Overvest Integration with CMU-33/P Vest and Torso Harness

6-44

6-134. PLACE-IN-SERVICE AND SPECIAL INSPECTION. The Place-In-Service and Special Inspections are visual inspections to be performed at O-Level or above in accordance with paragraph 6-135. The inspection shall be performed prior to placing the overvest in service and every 90 days thereafter. The 90-day Special Inspection may be waved when the vest is being stored for extended periods of time under controlled conditions. However, an inspection shall be required prior to use after storage.

6-135. Visual Inspection. The visual inspection of the CMU-29/P(V)2/P CBR Overvest shall be performed as follows:

1. Visually inspect survival items in accordance with the applicable chapter of NAVAIR 13-1-6.5.
2. Inspect cloth and webbing for cuts, tears, fraying and contamination.
3. Inspect stitching for security.
4. Inspect hook and pile tape for damage and security.
5. Inspect slide fasteners for damage, security, and ease of operation. Inspect thong pull tabs for presence and security of attachment.
6. Inspect hardware for security, corrosion, dents, burrs, distortion, sharp edges and ease of operation, as applicable.
7. If cleaning is necessary, proceed to paragraph 6-136.
8. Ensure all discrepancies have been corrected.
9. Repack survival items as required.

10. Record inspection date and signature of inspector in accordance with OPNAVINST 4790.2 Series.

6-136. CLEANING. To clean vest, proceed as follows:

Materials Required

Quantity	Description	Reference Number
As Required	Laundry Detergent	Commercial

1. Remove all CBR components and survival items.
2. Mix proper strength solution of detergent using manufacturer's instructions.
3. Immerse overvest in solution and allow to soak for five minutes. Agitate gently for two minutes. Drain, but do not wring out vest material.
4. Rinse in cool, clean water until all traces of detergent are gone.

CAUTION

Do not use clothes dryer or hang in direct sunlight.

5. Hang overvest by shoulder straps to air dry.

6-137. REPAIRS AND REPLACEMENTS. Repairs and replacements will be performed at O-Level or above. Table 6-10 lists the common repairs and replacements to maintain serviceability.

Table 6-10. Repair/Replacement

Description of Repair or Replacement	Paragraph Number
Replacement of loose or broken stitching Repair of small holes or tears Replacement of hook and pile fastener tapes Replacement of snap fasteners	No. 1 No. 1 No. 2 No. 3
<p>Notes: 1. Broken or loose stitching shall be repaired by restitching using stitching Type 301, 8 to 10 stitches per inch, with thread conforming to MIL-T-83193, size E, sage green (NIIN 00-130-6245) or V-T-295, size E, sage green (NIIN 00-204-3884). Backstitch 1/2 inch on all ends of stitching.</p> <p>2. Worn or damaged hook and pile fastener tapes may be repaired using the same type and length of fastener tape. Remove damaged tape and stitch new tape in position of original tape, using a single row of stitching 1/8 inch from all edges, stitch Type 301, 8 to 10 stitches per inch, with thread conforming to V-T-295, size E, sage green (NIIN 00-204-3884). Hook and pile tape on vest is 1 or 1 1/2 inches wide.</p> <p>3. Broken or missing snap fastening devices may be repaired using the same type of snap fastener. Refer to the applicable paragraph to determine the correct choice. Remove broken snap, if applicable, and attach new stud and eyelet in original position. Snap fasteners on either side of the slide fastener should be reinforced with a 14 X 1-inch strip of MIL-T-5038 Type III nylon tape sewn on the backside.</p>	

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